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MATERIALISM

16

BROUGHT TO THE TEST OF REASON,

AND REFUTED BY A CONSIDERATION

OF THE

STRUCTURE OF THE BODY

AND

THE FACULTIES OF THE MIND.

"Itaque quicquid est illud quod sentit, quod sapit, quod vult, quod viget, cœleste et divinum est; ob eamque rem, æternum sit necesse est."—CICERO.

BY THE

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TO

JOHN WEYLAND, ESQ.

OF WOODRISING HALL, IN THE COUNTY OF NORFOLK,

THIS LITTLE VOLUME

IS RESPECTFULLY INSCRIBED

BY HIS OBLIGED FRIEND,

THE AUTHOR.



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INTRODUCTION.

CONSIDERABLY more than a year has now elapsed since my attention was called to the fact, that notwithstanding the laudable exertions of his opponents, Lawrence's Treatise on Physiology still continues to be circulated in our medical schools; and that, as a natural consequence, very many of the students are infected with the dangerous principles of *Materialism*. The rudiments of this work appeared as early as 1816, and its pernicious tendency called forth numerous replies. The celebrated Abernethy refuted it from the Professor's chair; Mr. Rennell, and Mr. (afterwards Bishop) James, came forward in their capacity as clergymen to expose the fallacy of his reasoning; and an admirable article on the subject appeared in the *Quarterly Review*, Nov. 1819. In a letter to Sir R. Glynn, dated April, 1822, Mr. Lawrence acknowledges that—"the publication of certain passages was highly improper," and that he was "*firmly resolved, not only never to reprint them, but also never to publish any thing more on similar subjects;*" yet in that very year (1822) a new edition of more than a thousand copies issued from the press, and a SIXTH edition of his work was advertised in the *Penny Magazine* for October 1834, on the cover of the monthly part.

The fact which I have just stated, by proving that the able treatises already referred to have by no means set the question at rest, will sufficiently exonerate me from the imputation of *unnecessarily* approaching the subject; and I would even hope that this little work may supply a defect common to all its predecessors. Some came forward as anatomists, and others as divines; but it has been my object to unite the metaphysical to the physiological branch of the subject, which

has not, I think, been ever sufficiently attended to. If it should appear presumptuous in an unprofessional individual to enter the lists as a physiologist, I can only reply, that when medical men encroach upon the boundaries of theology, divines may be pardoned for turning anatomists. Of this I am well assured, that no symptoms of carelessness will appear in my work, since I have availed myself of all the sources of information within my reach, even to the extent of attending anatomical lectures. As far as comparative anatomy could assist me, I had already proceeded by dissecting the heads of several domestic animals; and, independently of my other reading, had an opportunity of consulting the works of Soemmering and Vicq d'Azyr.* My studies on this subject were in fact pursued under peculiar advantages, as I had access both to the literary treasures of the British Museum, and several large and valuable private collections. Egotism and ostentatious display are wholly foreign to my nature; but these observations were necessary to give my reader a proper confidence in my statements and reasonings, and prevent him from hastily concluding, that because I am not a surgeon, I write upon a subject of which I know nothing.

The assertion of Mr. Lawrence, that "*medullary matter thinks*," strikes at the root of both natural and revealed religion: for if matter may think, the first cause might have been matter, with thought eternally inherent in it: and, indeed, wherever the hypothesis of *Materialism* has been embraced, it has been associated with the most pernicious heresies. A slight acquaintance with history must convince the reader that these principles have repeatedly led to the denial of a future state, the establishment of an uncontrollable necessity, absolutely destructive of free agency, and perhaps still more frequently to atheism itself! The names of Epicurus, Spinoza, Collins, Hobbes, and Priestley, sufficiently bear me out in my assertion, and prove that the point at issue is not merely speculative, but involves the most important consequences.

Before I enter upon my subject, it will be necessary for me to clear up a few preliminary questions, which are very liable to be misunderstood, respecting *Matter, Spirit, Life, the Senses, and Organization*.

* Soemmering "*De basi Encephali, et originibus nervorum cranio egredientium*," and Vicq d'Azyr's "*Traité d'Anatomie*," tom. i.; works far too expensive to be often met with. The latter is in folio, and contains 38 beautifully coloured engravings, illustrative of the various parts of the brain.

MATTER, then, is that which is “tangible, extended, and divisible;” and SPIRIT, “that which perceives, reflects, wills, and reasons.” They are known to us only by their qualities and operations; but with this remarkable difference, that *thought* is known to us *directly* by our consciousness, but *matter* only *indirectly* through the medium of our senses. “Reason, will, perception, memory, &c.” says Dr. Smyth, “we know by an immediate converse with ourselves, and we have a distinct sense of their operations; whereas, all our knowledge of *body* is little better than merely historical, gathered piecemeal from doubtful and uncertain experiments:—of all truths, then, which we know, the existence of mind is the most certain;” for the senses are often delusive, but consciousness is infallible. If some have denied the separate existence of the thinking principle, Berkeley, on the other hand, has resolved all that we see and hear and feel, into the operations of the mind—as if human existence had been one continued dream, and *matter* itself, with all its operations, merely imaginary, “the baseless fabrick of a vision.” We may laugh at this hypothesis, but, as Dr. Reid says, “in the opinion of the ablest judges, it cannot be refuted.”*

LIFE, or the nature of that principle which distinguishes *animals* from inert matter—for with vegetable life we have at present nothing to do—is the next thing to be considered. And here we plunge at once into the ocean of controversy, so great is the variety of opinion which has prevailed upon the subject. The great Harvey believed that the principle of vitality exists in the blood. Hufeland considered life as a chemico-animal flame, to which oxygen is absolutely necessary. Humboldt thought that it depended on the reciprocal balance of the chemical affinities of all the elemental parts of the body. Rush and Brown believed life to be the effect of certain stimuli, acting upon sensibility and excitability. Hunter and Abernethy believed it to be electro-chemical. Some physiologists have thought the vital principle *divisible*, arguing from the case of worms and zoophytes, the separate parts of which live when they have been cut in pieces. Lastly, Pritchard and others have asserted, *that there is no vital principle whatever*.†

Amidst these conflicting opinions, I am rather inclined to side with those who look upon the vital principle as *analo-*

* On the Mind, p. 21.

† See Encyclopædia Britannica, Art. *Physiology*, and Supplement.

gous to electricity, for the following reasons, selected from Abernethy's Lectures, and Garnett's Zoonomia:—

1. The celerity with which impressions are conveyed along the nerves to the brain, strongly resembles the phenomena of electricity; the cause being in both instances almost simultaneous with the effect.

2. The nervous filaments are evidently the *conductors of sensation*; and experiment has proved that the nervous fibre is a better electric conductor than any other part of the body. Dr. Wilson Phillip has established the point, that the *absolute continuity* of a nerve is not essential to sensation, provided the parts be adjacent; *which is exactly the case with respect to electric conductors*.

3. Electricity may inhere in a body in various degrees of activity, and may at length be dissipated; which is strongly analogous to the phenomena of life and death.

4. The action of the nervous system in digestion, secretion, &c. agrees with the discoveries of Sir Humphry Davy, respecting the effect of the electric fluid upon chemical affinities.

5. When a dead body is submitted to the action of galvanism, all the muscles are set in motion, precisely as if it had been alive; and this similarity of *effect*, naturally disposes us to expect a resemblance in the *causes*.

6. That electricity exists in animal bodies, may be easily proved by rubbing a cat's back in the dark. Garnett believed the flashes of light from the eyes of cats, lions, &c. and the internal phosphorescence of the human eye, to be electric; and it is certain that *some* animals, as the electric eel and torpedo, possess the power of accumulating the electric influence.

The principal functions of *life* appear to be three; viz. procreation of species; assimilation of foreign matter by nourishment; and the evolution of heat.

In discoursing upon this subject, I must not omit that most wonderful tenacity of life exhibited by some animals. Zoophytes and worms, as we have already seen, possess a faculty of reproduction when they have been cut in pieces; fishes will live throughout the entire winter, entombed as it were in the ice; frogs and toads have been repeatedly found alive in the cavities of stones, where they must have existed for years, *perhaps for ages*, without the possibility of respiration; and, what is perhaps even more extraordinary, we learn from the Philosophical Transactions, that "the wheel polype, and some snails, may be safely *preserved as*

dry preparations for years; and, after irritability and sensation have been totally suspended, will return to life upon the application of moisture."

One of the chief errors of Mr. Lawrence arises from his confounding the intellectual powers with the vital principle; but these are so evidently distinct, that people frequently *live* even when they are in a state of *total insensibility*; as in the case of syncope, or an apoplectic fit.

SENSATION is the third phenomenon which I proposed to consider. The chief error which prevails upon this subject, arises from a loose and indefinite mode of expression usually adopted when we speak of the things which we see, hear, or touch: thus, in common parlance, sensible impressions are ascribed to their appropriate organs, precisely as if they terminated in them; or, in other words, as if we literally saw with our eyes, and heard with our ears: whereas, in point of fact, the eye itself can no more see than a telescope or a pair of spectacles. The organ may be perfectly sound, but unless the mind gives its attention, we neither see nor hear. Thus, when we are in a fit of absence, objects are presented before our eyes of which we are perfectly unconscious; and indeed, *even after death*, the eye or the ear, as far as they are concerned, are as capable of discharging their respective offices as during the period of active existence; at least, so long as they retain their appropriate organization. It is evident, then, that the senses are merely the "*fenestræ animi*," as Cicero calls them—the avenues through which the soul holds intercourse with the material world; that there must be a *perceiving power* independent of these organs; and, as Bishop Butler has well observed, "that we see with our eyes in the same sense as we see with glasses."*

ORGANIZATION is also a term shamefully abused when it is applied to the human body for the purpose of excluding an immaterial principle. This would be directly contrary to the analogy of all mechanism; since an adaptation of parts is not sufficient of itself, unless an *impulse* be also given. Let us take the instance of a watch or a clock:—however well the wheels and its several parts may have been constructed, it would have remained at rest for ever, had it not been for the hand which set the works in motion: the impulse thus given must have been constantly renewed; nay, more—this physical power, although combined with the

* Analogy, part i. ch. 1.

greatest ingenuity, could never have produced the effect, had it not been for the operation of two immaterial principles, viz. *gravity* and *elasticity*. Yet, forsooth, we are told that the mere juxtaposition of atoms, that the mere adaptation of parts, in themselves inert and unintelligent, will sufficiently account for all the powers of the human mind!

SENSORIUM COMMUNE.—Physiologists, from the earliest times, have groped about with their scalpels in the substance of the brain for some particular point, in which they believe that the sensorial energy must be lodged. Upon this subject a most ludicrous variety of opinion has existed. The ancients believed the head to be the seat of the intellect, but they distributed the passions among various parts of the body: they placed *Love* in the heart, *Anger* in the liver, *Pity* in the bowels, &c. ; and Bischat has so far agreed with them as to make the *epigastric region* the seat of the moral sentiments. Des Cartes, it is well known, looked upon the *pineal gland* as the seat of the soul ; Willis believed it to reside in the *corpora striata* ; Lawrence supposes the *medullary* matter of the brain to be endued with both thought and sensibility ; Majendie gives his vote in favour of the *spinal marrow* ; Le Gallois placed the will in the *encephalon*, and the power of motion in the *spinal marrow* ; some have patronized the *cerebellum* ; others the *corpus callosum* ; others the *pons varolii*, or *tuber annulare* ; and Van Helmont believed that the sensorial energy resided in the *stomach* ! *

THE BRAIN.—For the use of general readers, I shall here add a brief outline of the structure of the human brain, the parts of which are frequently alluded to in my work.

On the removal of the skull, and the membranes with which it is enveloped, the human brain presents the appearance of an oval, about one fourth longer than it is broad. After death it exactly fills the *cranium*, and therefore during life, when the blood circulates through it, there must be a considerable pressure. And here it may be remarked, that in infants or persons undergoing *trepan*, two motions are observed in the brain, viz. one like *pulsation*, and the other like *respiration*.

The upper portion of the *encephalon*, which is called the *cerebrum* (or brain proper), is divided into two *hemispheres*, nearly counterparts of each other. The inner surfaces of the *hemispheres*, where they approach each other,

* See Encyclopedia Britannica, Art. *Physiology*.

are nearly smooth; but the outer surfaces resemble the turnings and windings of the intestines. Cuvier remarks, that there are generally eighteen or twenty of these convolutions which touch the line where the two *hemispheres* separate, and about ten or twelve, counting in a transverse direction.

Under the hind part of the *cerebrum*, and entirely covered by it, lies the *cerebellum* (or little brain), which is also oval, and in the proportion of rather more than one ninth to the entire mass of the *encephalon*. The *cerebellum* is divided into two lobes, nearly counterparts of each other. There are furrows on its upper surface, but they are not deep: they are also much more regular than those of the *cerebrum*, and resemble segments of circles, or the edges of plates laid on one another, or net-work. The inner surfaces, where the two lobes face each other, present the remarkable appearance of a *tree*, composed of five principal branches, subdivided into smaller ones; the whole being formed of white medullary matter, inlaid in a darker substance. This is called the *arbor vitæ*, or tree of life.

Nearly under the *cerebellum*, which forms a sort of bridge over it, is the *medulla oblongata*, or the commencement of the spinal marrow, the parts of which are also double; and these are called the *crura medullæ oblongatæ*, because they somewhat resemble a foot and ankle, with the toe pointing towards the front of the head. The tips of the *crura* are called the *corpora striata*, (or channelled bodies), from the appearance of grooves or ridges which are seen in them; and the point in which the *crura* unite, is called the *processus annularis*, or the *pons varolii*, Varolius having been the first discoverer.

But to return to the *cerebrum*. The two hemispheres, approaching one another, leave a space between them called the *centrum ovale*, (or central oval cavity.) This is covered by the *corpus callosum*, formed by the union of the medullary fibres on each side.

Proceeding from the under side of the *corpus callosum*, is a thin, transparent, and, I think, double membrane, called the *septum lucidum* (or clear partition), which divides the *centrum ovale* into two *ventricles* or cavities.

The two lateral *ventricles* which I have just mentioned, extend from the front of the *cerebrum* backwards, where they become much wider. They contain *four* protuberances, two of which are in each ventricle, viz. in front; the *corpora striata*, or tips of the *crura medullæ oblongatæ*;

and behind them the *thalami nervorum opticorum*, whence the optic nerves have their origin.

In a cavity formed between the *medulla oblongata* and *cerebellum*, is the *glandula pinealis*, or pineal gland, remarkable as having been once considered the seat of the soul. It is a medullary substance, of about the size of a pea, and usually contains in the inside some particles of a sandy appearance.

From what has been said, it appears that we have, in point of fact, *two brains*, or, as Esquirol observes, that “*toutes les parties cerebrales sont doubles ou paires.*” *

Another observation which I wish to make, is, that the same parts as those which I have just described, are discoverable in the brains of all *mammalia*. “*Le cerveau de mammiferes,*” says Cuvier, “*contient absolument les mêmes parties que le cerveau de l’homme, disposées à peu près dans le même ordre.*” †

Having thus explained the chief parts of the human brain, we are next to consider the substance of which it is composed.

The outer part, which is of a grey or ashy appearance, is called the *cortical* or *cineritious* matter, and is found to consist almost entirely of minute vessels. It extends about as low as the convolutions of the brain.

The inner part, which is of a *white* substance, is called the *medullary* matter. It is of a fibrous texture, as appears from the experiments of Prochaska, Vieussens, &c. They immersed a portion in alcohol for several days, and the consistence was so much increased, that slender white threads, of about the thickness of hairs, might be raised on the point of a pin from its surface. Dr. Macartney has discovered that these fibres “are laced in the most intricate manner, resembling the plexuses met with among the nerves, and establishing a connexion between all the parts of the cerebral mass.” The former experiment I have tried myself.

M. Valequin’s analysis of the *cerebrum*, *cerebellum*, *spinal marrow*, and *nerves*, gave exactly the same result; viz. water, 80,000; white fatty matter, 4,53; red ditto, 0,70; osmazome, 1,12; albumen, 7,00; phosphorus, 1,500; sulphur and salts, 5,15. ‡

De la Torre, Wenzel, Bauer, and others, have shown that the brain is composed of small globules, varying in size

* Dict. des Sciences Medicales, tom. iv.

† Anatomie Comparée, tom. ii. p. 147.

‡ Majendie’s Physiol. vol. i. p. 112.

from the $\frac{1}{2400}$ th to $\frac{1}{4000}$ th part of an inch in diameter, these globules being $\frac{1}{8}$ th smaller than those in the blood; and “in all the tribes of mammalia, in birds, in fishes, and in reptiles, the nervous tissue consists of globules, of exactly the same size and general appearance.”*

It is my intention, first, to consider the arguments usually advanced for the purpose of proving the soul material; and, secondly, to bring forward the reasons which would lead us to the opposite conclusion, viz. that the human soul is of a spiritual essence.

Although I have, throughout this Essay, adopted Lawrence’s work as a kind of text-book, I must protest against the supposition of my being merely *his* opponent. My object is much more general, and I enter the lists not merely against this author, but against all physiologists who have embraced the *material* hypothesis. And here let it be remarked, that the order in which Mr. Lawrence’s arguments are placed, as well as the numerals attached to them, are entirely arbitrary, and adopted for the convenience of reference. In his work on physiology they occur merely as loose observations, and without any plan.

An affectation of originality has but too often injured the cause which it was intended to support, and accordingly it has been my object rather to select the strongest arguments from every available source, than to strike out new lights upon the subject. The plan of the Essay is, however, strictly my own; the arguments are in many instances either entirely new, or at least very much strengthened by the production of additional facts: and, wherever I have been indebted to the labours of others, it has been my endeavour, as far as it was practicable, to acknowledge the obligation.

* Animal Physiology, part i. p. 18.

PART THE FIRST.

CONSIDERATION OF THE ARGUMENTS EMPLOYED BY MR. LAWRENCE AND OTHERS, TO PROVE THE INTELLECTUAL FACULTIES MERELY FUNCTIONS OF THE BRAIN.

FIRST ARGUMENT.

From the effect which diseases of the brain appear to have upon the mind.

THE first argument which I shall notice in proof of the *absolute* dependence of the mind upon the brain, is founded upon the assumption, that where the latter is diseased, the former is necessarily impaired; as, “when the brain is compressed by a piece of bone, or by effused blood or serum, all intellectual phenomena are more or less completely suspended.”* And another writer of the same school has remarked, that “mental derangement is often a sequel of inflammation of the brain;” “that a vertical pressure upon the brain will produce insensibility; and sometimes an *exostosis*, or tumor formed in the substance of the brain, or even a projecting spiculum irritating the membranes, may produce insanity.”

In reply to this I would remark, that as we most willingly admit the brain to be the instrument by which the soul performs its functions, even were this *universally* the case, our assertion respecting the spiritual nature of the human mind would not be affected in the least; for—let it be conceded that man is a compound of matter and spirit—that the mind should be able to sympathise with the joys and sorrows of

* Lawrence, p. 105.

the body, must be looked upon as a necessary consequence of that union, otherwise we should not be sufficiently interested to take due precautions for the preservation of the material frame. But although, according to the laws established by the wise Creator of the universe, a pressure on the brain should produce derangement or insensibility, it would no more follow that the mind itself was impaired, than that the skill of a musician had left him when the strings of his instrument were broken. A savage who had heard a musical snuff-box for the first time, without having seen it wound up, would observe a most intimate connexion between the works and the sounds which delighted his ear; he would be able to trace every note to a corresponding motion of the parts; he would find that the pressure of his finger upon the hammers produced an immediate interruption of the melody; and thus would he be led to the conclusion that *the snuff-box* was the original cause of his pleasurable sensations. The argument of this untutored Indian would be quite as rational as that of the materialist; but, as in the former case, there was a hand which, although unseen, set the machinery in motion, so will it hereafter appear that our bodies are animated by a principle invisible, and totally distinct from matter.

Throughout the whole range of philosophical investigation, nothing perhaps is more generally misunderstood than the relations of *cause* and *effect*. By false induction, *particulars* are frequently elevated to the rank of *universals*; nor does it seldom happen that merely accidental circumstances are looked upon as the *causes* of those phenomena with which they are commonly associated. But “a thing may be an impediment when wrong, which was not the efficient cause when right; and the man who argues from the disease of the brain operating upon the mind, takes it for granted that nothing could *hinder* an effect, but what could *produce* it.”*

Thus far have I been willing to proceed upon the supposition most favourable to Mr. Lawrence’s argument, viz. that where the brain was diseased, the mind was *invariably* affected. When, however, we turn from assertions to facts, we shall find additional reasons for believing that the brain and the mind cannot possibly bear towards each other the relation of *cause* and *effect*.

Let us then examine, in the first place, those instances in

* Essay on the Soul, vol. i.

which it must be confessed that the brain and the mind were diseased *simultaneously*, and it will be found that they are very far from lending any support to his system. Upon the *post mortem* inspection of a diseased brain, no surgeon, *however great his skill and experience*, can pronounce respecting the state of the person's mind to whom it had belonged. In a lunatic asylum he could not, in *any one instance*, from the nature or degree of insanity, determine as to the condition of the patient's brain; nor could he, if he were present when a man received a wound in the head, upon examining it, certainly know how his mind would be affected, *or whether it would be affected at all*. Now, if the human intellect had been merely the result of *organization*; and if it be true that like causes will, under similar circumstances, produce like effects, it might have been expected that when the *machinery* of the brain became impaired, a skilful surgeon could decide with as much certainty as a watchmaker respecting a disordered piece of clock-work. But it will be necessary for me to prove the point upon which I ground my argument. "Though we know that the brain is hurt or irritated by a swelling, or a bone growing into it, nobody can foretel the nature or extent of the malady from such a hurt."* "No sensible man will expect, in the most minute and unwearied investigation of the structure of the brain, to find an explanation of its functions."† Other authorities to the same purpose will occur when the various phenomena of insanity are taken into consideration.

Thus easily may the strong-holds and bulwarks of Materialism be demolished. But we may proceed even farther than this, since there are *very many* instances in which the brain has been frightfully injured, yet the mind has continued as vigorous as ever.

Vanderlinden, in his *Medecina Physiologica*; Haller, in his *Physiologia*, tom. i.; La Peyronie, in the *Acad. Royal des Sciences*; Ferriar, in the *Memoirs of the Manchester Philosophical Society*, part i. p. 20, and others, have collected numerous cases of this description. The following I have chosen from among many others published by Sir Everard Home, in the *Philosophical Transactions* for the year 1814; from the *Quarterly Review*, No. 43, 1819, p. 25, &c.; from the *British Critic*, No. 18, April, 1831, p. 361; and from the *Edinburgh Review*, No. 48, Feb. 1815, p. 441, &c.

* Encycl. Perthens. Art. *Medicine*, § 147.

† Bell's *Anatomy*, vol. iii. p. 449, Lond. 1803.

1. A deep wound in the right anterior lobe of the brain, attended with inflammation and a suppuration, *produced no sensation whatever; the senses remained entire, and the person did not know that the head was injured!*

2. The brain shooting out in the form of fungus, after the *dura mater* is wounded, *has no effect upon any of the nerves, nor is it attended with sensation.*

3. Loss of a portion of the medullary substance of the anterior lobe of the *cerebrum*, *produced no symptoms.*

4. In the case of a penetrating wound into the right hemisphere of the brain, with bone forced into its substance, *no effects were produced.*

5. Dr. Haller mentions a case, in which half a pound of pus was found in the ventricles of the brain, *yet the faculties were unimpaired till death.*

6. A woman, under Diembroch's immediate inspection, whose skull was fractured by the fall of a large stone, lost a quantity of brain equal to a man's fist, *yet she lived thirty-six days after the accident, without alienation of mind.*

7. Peyronie tells us of a boy, six years old, who received a pistol shot in the head. A suppuration followed, during which he lost a great quantity of the brain at every dressing; at the end of eighteen days he died, *having retained his faculties to the last. When the head was opened, the portion of brain remaining in the skull did not exceed the size of a small egg!*

8. Haller mentions several instances of scirrhus affecting the *cerebellum*, and producing death, without previously injuring the faculties. Morgagni gives a particular account of a fatal scirrhus of the *cerebellum*, slow in progress, not affecting the patient's sense till the last, and then only at intervals.

9. Dr. Brunner records the case of a blacksmith, sixty-four years of age, who died of apoplexy. On dissection, the whole brain, even the base of it, was found to be in a diseased state, *yet his faculties had never been impaired, and he had been remarkably acute in his judgment.*

10. Bonnet, in a patient who died after an illness of twelve years, without suffering any alienation of mind, found the whole substance of the brain watery, and so soft that it would hardly bear the knife.

11. Mr. Erle relates the case of a man whose sensibility remained unaffected till within a few days of his death; and yet there was found in his brain an abscess occupying nearly one third of the entire substance of the right hemisphere,

communicating by a large ulcerated opening with the anterior extremity of the right ventricle, and penetrating by a smaller orifice to the lower surface of the anterior lobe.

12. The case of a man who died of injury of the head, is recorded by Mr. Bailey, in whom the sight of the left eye only was a little impaired before death; and yet an abscess was found in the posterior lobe of the right hemisphere of the brain, containing two ounces of matter.

13. Dr. Hunter found the whole of the right hemisphere of the brain destroyed by suppuration, in a man who had retained his faculties perfectly till the instant of his death, which was sudden.

14. The Chevalier Colbert had his skull fractured by a stone, which seems to have entirely crushed the bones forming the back part of the orbit, and to have driven the splinters into the brain. After death, a large portion of the brain, particularly towards the lower part, extending as far even as the cerebellum, was found broken down, partly by the fragments of bone, and partly by suppuration. Yet it is particularly specified, with respect to this patient, that except at the moment he received the wound, when he lost his recollection, and fell into a swoon, *he retained his judgment perfectly, continued to perform all his functions, and exhibited a surprising tranquillity of mind until the period of his death.*

15. The *pineal gland*, and the *corpora bigemina*, were found by La Peyronie completely mortified in a woman who had retained her senses to the last.

[The following are instances of the *entire brain* being absent where sensation was carried on.]

16. Dr. Quin mentions a child born with a very large head, which however took food, appeared healthy, increased in size and strength, and could both see and hear well. At eighteen months old he died suddenly, without any convulsive attack. On opening the head, more than five quarts of limpid water were found within it; but there was not the smallest trace of membrane or brain, except opposite the orbits and *meatus auditorius*, where something like *medulla* still remained.

17. Dr. Heysham mentions a female child which lived fully six days. He found in place of a brain, a brown vascular mass. The frontal, temporal, occipital, and the whole of the parietal bones were wanting, and there was not the least appearance of *cerebrum*, *cerebellum*, or any medullary substance whatever; yet this child was full grown, well pro-

portioned, and seemed in perfect health. It moved its limbs with agility, swallowed well, all the external organs of sense were perfect, and the eyes were as full and lively as in any other child of the same age. In another instance, recorded by Sir Everard Home, two quarts of a clear pellucid fluid were found within the skull; the *spinal cord* was seen at the large hole of the occipital bone, and a little *medullary pulp* behind the orbits; but that was all that could be found for brain.

These cases have been selected from several hundred of a similar description, brought together by men of the highest professional eminence and the most unblemished integrity. Many of my readers may perhaps think that I have been tediously prolix in my quotations: it was however absolutely necessary for me to guard against the possible imputation of having brought forward a few solitary exceptions to an established rule.

Having thus laid my foundation, I shall allow Mr. Lawrence to state his own case:—"The same kind of facts, the same reasoning, the same sort of evidence altogether, which show digestion to be a function of the alimentary canal, the motion of the muscles, and various secretions of their respective glands, prove that sensation, perception, memory, judgment, reasoning, thought—in a word, all the manifestations called mental or intellectual, are the animal functions of their appropriate organic apparatus, the central organ of the nervous system. No difficulty nor obscurity affects the latter case, which does not equally affect all the former instances: no kind of evidence connects the living processes in the one, which does not apply just as clearly and forcibly to the other."*

"*Splendide mendax!*" The whole range of his experience has not presented him with *a single instance* in which the alimentary canal was seriously injured without impairing the digestive functions; in which the heart has been wounded without interrupting the circulation of the blood; in which a nerve has been divided without destroying sensation on the side opposite to the brain; or in which the retina has been destroyed without affecting the sight: yet the brain has received injuries strictly analogous to *all* of these, *while the faculties of the mind continued as vigorous as ever!*—injuries which Mr. Lawrence has taken very good care to keep out of view.

* Lawrence, p. 97, 98.

SECOND ARGUMENT.

From the sympathy which appears to subsist between the state of the body and the various intellectual phenomena.

The following are Mr. Lawrence's words:—"Where then shall we find proofs of the mind's independence of the bodily structure?—of that mind which, like the corporeal frame, is infantile in the child, manly in the adult, sick and debilitated in disease, phrensied or melancholy in the madman, enfeebled in the decline of life, doting in decrepitude, and *annihilated by death?*" *

That the state of the body has a great influence upon the mind, is past all dispute; and I have not only freely admitted the existence of this sympathy in page 10, but have also shown that it was reasonable to expect it *à priori*, assuming the immateriality of the soul as an acknowledged fact. This however, although the truth, is not the *whole* truth; for mind and body act *reciprocally* upon each other. If it be true that the mind is *sometimes* debilitated by disease, the salutary influence of a quiet conscience and a peaceful spirit upon the material frame, are no less remarkable; nay more—the experience of every day teaches us, that the mind exercises an almost absolute control over the body, compelling an instant obedience in the remotest parts—an obedience almost simultaneous with the act of volition. On the other hand, the dependence of the mind upon the body is much more qualified: very frequently the former retains its vigour when the latter is reduced to the lowest state of exhaustion; we find within ourselves a power of resisting material impressions; considerations purely intellectual will often induce us to forego sensual enjoyments; and I have also shown (page 13,) that the *sensorium* itself has often sustained the most frightful injuries, while the mental faculties continued unimpaired. If then the argument from sympathy had been worth any thing, it were much more reasonable, with Bishop Berkeley, to resolve all that we experience respecting our bodies into the operations of the mind, than to consider the human intellect merely as a function of the brain.

So much for the *general* argument. I now proceed to examine the several clauses of which it is composed.

* Lawrence's Physiology, p. 7.

§ I.—INFANCY.

“*Of that mind which is infantile in the child, and manly in the adult.*” And he has elsewhere said, “*that the mind in infancy is built up before our eyes by the operation of the senses*”—evidently confounding the ideas conveyed to us by the “operation of the senses,” with the faculties of the mind itself.

“We all,” as Dr. Johnson says in his Rambler, No. 151, “enter the world with equal ignorance, and look about for ideas.” But although the mind is thus ordained by Providence to be, as it were, the architect of itself, the *ideas* which we acquire by observation are to be distinguished from the *acquiring faculty*. In a great majority of mankind, the mere organs of sensation are alike, and the opportunities for exercising them equal; yet how various is THE MIND! The gradations of the human intellect are almost infinite, which alone ought to convince us that something is necessary, besides the *senses*, to account for this *building up* of the mind.

We may easily conceive the case of an adult, of good natural abilities, yet whose intellect had never received any cultivation. Let us picture to ourselves a New Zealander, brought suddenly out of a state of barbarism into the full blaze of civilization; until, “by the operation of his senses,” this man had furnished his mind with ideas upon the subject, he would be as totally unfit for society as an infant. The case of Kaspar Hauser, (a narrative of which was published in 1834) strongly confirms my position. This individual possessed “a good common sense, and accuracy, and acuteness of judgment.”* He had a wonderful memory, his thirst for knowledge was unbounded, and his organs of sensation were quite extraordinary; yet we are told that “having the appearance of a young man, *his whole conduct was that of a child scarcely two or three years old.*” What was the cause of all this? clearly not a want of *intellect*, but a want of *education*, paralysing the energies of his mind; for the first seventeen years of his life had been passed in a total seclusion from all society. The above observations would lead us to suppose that the intellectual faculties of the infant and the adult are *abstractedly* the same, although they differ widely from each other in point of cultivation.

* Page 135.

The mind of a newborn child has been well compared to a *tabula rasa*, or a sheet of white paper: it has indeed hitherto received no impression, but *it is capable* of receiving them.* It can not only take in ideas by perception, and store them in the memory, but it also possesses the *rudiments* at least of two important faculties, viz. REFLECTION and ABSTRACTION. Were it otherwise, as far as the mind is concerned, the period of infancy would never cease. It is, in short, like a rich and fertile soil, now lying fallow, but susceptible of the highest degree of moral cultivation; and although that cultivation may *improve* its faculties, it certainly does not *create* them.

I shall now specify the most important characteristics of the infant mind, as they have been collected by industrious observers. What contemplation can be more delightful to a father than the early indications of reason in his infant son. Thus fondly may the parents of a Shakspeare, a Newton, or a Copernicus, have watched over the children of their hopes; and, as they saw the gradual expansion of the intellect, roving in imagination through the vista of years, in these first efforts of the mind, they may have discerned the promise of future eminence and glory.

In about the fifth or sixth week after delivery, infants first begin to look at bright objects, and turn their eyes towards the light; they recognize individuals, they smile and weep, *the result of two internal sensations depending on the action of the mind.*† It is said that dreams are then first discovered; but several nurses have assured me that the children under their care usually smiled and cried in their sleep at about a fortnight old, and that they also recollected those about them even thus early. An infant has therefore *memory*; it exhibits great activity of mind in the abundance of its curiosity, and an accurate judgment of being well balanced on the arm. Children also exhibit sometimes an extraordinary wiliness and cunning at about five months old;

* The opinions of Locke, Leibnitz, and Kant, upon the subject of *innate ideas*, approximate more nearly to each other than is commonly supposed. Locke, it is well known, believed that there were only two avenues through which the human mind could be furnished with ideas, viz. *sensation* and *reflection*; thus evidently recognizing the existence of *original faculties* in the mind. Leibnitz merely contended that there are certain *principles* innate in the mind, and essential to the understanding, viz. the ideas of *existence*, of *possibility*, and of *identity*. In this, Kant nearly agrees with him, asserting that the ideas of *time* and *space*, *cause* and *effect*, are innate.—PANTALOGIA, Art. *Kantism*, and BROWN *on the Mind*.

† Lawrence considers laughter and weeping as peculiar to the human species, p. 218.

and as they dream, and are susceptible of fear, they therefore have the power of imagination. At about twelve or fifteen months old they make the first efforts to speak, which requires the faculty of ABSTRACTION.* And some children can, at two years of age, articulate distinctly, and repeat whatever has been said to them. That the infant mind does not show itself still earlier, probably arises from the fact that the organs of sensation, which are the *inlets of knowledge*, have not yet arrived at maturity. Sounds at first make but little impression upon their ears, nor can the eye perceive distant objects.† Dr. Brown has presented us with a somewhat subtle proof that infants reason, which the reader may consult at his leisure.‡ But independently of these considerations, a comparison of different children enables us to repel the argument at once. If that remarkable sympathy had existed for which Mr. Lawrence contends, the strongest and healthiest children ought to be *invariably* the most intelligent; but how often do we see the fire of genius beaming in the eyes of pale and sickly children, while the ruddy glow of health adorns the cheeks of mediocrity or dulness.

An extraordinary physiological fact next offers itself to our notice, which, upon Lawrence's hypothesis, is absolutely unaccountable, viz. that the human brain arrives at its *maximum* in three years; and that all the parts of the organ acquire their full dimension at the seventh year, after which no alteration takes place during the whole life. Soemmering, in his "*Tabula Baseos Encephali*," (p. 13), speaks of the *third* year, as the period of its full development; but the Wenzels assert that this does not take place till the *seventh* year, when they say, "*Cerebrum hominis et quoad totum, et quoad singulas partes, absolutum esse videtur.*" (p. 247.) Now, if Mr. Lawrence's theory had been the true one, it would have been natural to expect a much larger development of brain where there was a greater expansion of intellect; for if the mind had been merely a function of the brain, and if it could be truly said to be "infantile in the child, and manly in the adult," as much as a grown-up person excels a child in understanding, so much would the

* Locke on the Understanding, book ii. ch. 11.

† See Buffon's Natural History, vol. i. near the beginning; Encyclopedia Perthensis, Art. *Man*; Reece's Encyclopedia, vol. xxii. Art. *Man*; also Feltham's Anatomy, Lond. 1803, p. 56; and James's Semi-Sceptic.

‡ Lecture XXIV. p. 148-50, Edin. 1828.

brain of the former surpass that of the latter in organic structure.

§ II.—DISEASE.

“*Sick and debilitated in disease.*”—I would here wish the reader to observe, that all the arguments of the materialists are taken from a *diseased* state of the body or the brain; yet, if their system had been correct, the *converse* would be equally true, viz. that where the *organ* was in health, organic action would be carried on with the greatest perfection. This, however, is not the case; and so far is it from being universally true, that “*the mind is sick and debilitated in disease,*” that sometimes great genius is united to a frail and rickety constitution, as in the case of the poet Pope, and many other great men; whilst, on the other hand, the densest stupidity is often found where health is in its greatest exuberance.

A remarkable circumstance, which may justly lead us to doubt respecting the truth of the fact upon which the argument is founded, is as follows: that many eminent men have assumed *directly the reverse*; and maintained that the soul is distinct from the body, because “*there are instances of mortal diseases which by no means affect the intellect, and because persons before death appear to be in the highest vigour of life, discovering apprehension, memory, reason, and judgment, all entire.*” * Nor is it even generally true that mental imbecility bears any proportion to the intensity of disease, since in many cases of mortal sickness, and especially in consumption, *where the vital energy is exhausted*, the intellectual powers continue unimpaired to the very last.

§ III.—INSANITY.

“*Phrenzied or melancholy in the madman.*”—We have here a most extraordinary proof of the confused and unphilosophical manner in which Mr. Lawrence treats his subject. His object is to establish a sympathy and correspondence between the mind and the body, yet he produces an example in which *the former is exclusively concerned*; for how would it be possible for the *body* to be mad? His assertion, in fact, literally amounts to this—*that the human mind is*

* Butler's Analogy, part i. ch. 1; See also Gurney's Port. Evid. of Christianity, p. 79; James's Semi-Sceptic; Sharon Turner's Sacred History, &c. Let. xix. p. 468; and Cicero, De Senectute.

insane when it is insane; a truism which I have no inclination to controvert.

That I may not appear, however, to have evaded the real force of his argument, I shall suppose his meaning to have been very different from that which his words imply; viz. that in cases of lunacy, the mind and the body are disordered simultaneously.

Let us first examine how far this is true with respect to the *body in general*, and it will be found that the inmates of our lunatic asylums frequently enjoy a tolerable share of health;* nay more, *that they are less liable to disease than others.*† But we may go on even still further than this: we can affirm, upon the most unexceptionable authority, that *disease has repeatedly proved the CURE of insanity.* Thus Dr. Burrowes mentions the case of a clergyman, “who had a diseased spine, and who was always maniacal when free from pain, and sane when the pain returned to that site.”‡ He also says, “A perfect and permanent restoration of reason has followed a paroxysm of fever, even where fatuity in its worst form has existed many years.”§ Nor are these solitary instances. If I recollect aright (for I have not his book before me) he has even gone so far as to assert, “that if it were possible to *innoculate* a fever, that would be universally a cure of insanity.”|| In pages 74 and 75, from an extensive induction of particular instances, Dr. Burrowes arrives at the conclusion, that “more than one in five corpses of maniacs present no evidence of any disease whatever.” This writer, from his great experience in the treatment of insanity, may perhaps be considered the very highest authority upon the subject. The facts which I have quoted from his work are there produced for a widely different purpose from that to which I have applied them, and are therefore the more valuable; for the most ingenuous writers sometimes unconsciously overstate the arguments which support their favourite theories.

Next, as far as the brain is concerned, it is by no means worth our while to deny that lesions of that organ are *sometimes* followed by delirium or insanity. Several important considerations, however, must prevent us from looking upon this as a valid argument in favour of Materialism: for—

1. Pinel, Esquirol, &c. have proved “that the same

* Burrowes, p. 490, &c.

† Encycl. Perth. Art. *Medicine*, § 955.

‡ Commentaries on Insanity, p. 88.

§ Ib. p. 501.

|| Ib. p. 127—131; also Encycl. Perth. *ubi supra*.

morbid appearances displayed in the bodies of those who had died mad, have been discovered in the corpses of persons who were never insane.”* And I have shown elsewhere (p. 13.) that in many instances the human brain has sustained dreadful injuries, yet the intellect continued unimpaired.

2. For any thing that appears to the contrary, the diseased brain may have been the *effect*, and not the *cause* of insanity: for we know that in cases of syncope, purely mental affections frequently cause the brain to collapse.†

3. These disorders of the brain bear no proportion whatever to the amount of insanity; “sometimes violent insanity has continued for years, and not a visible trace of diseased structure or action has been discovered in the brain or elsewhere; and it is rather singular that a corpse, selected by Esquirol on account of the patient’s peculiar violence, exhibited not the slightest mark of disease or alteration.”‡ In addition to this, let me recal to the reader’s memory a remark which I made in page 12, to the effect that the most skilful surgeon would not be able, from a *post mortem* examination of the *encephalon*, to determine what must have been the state of the person’s mind.

4. It not unfrequently happens that the disease of the brain ceases, the person still continuing insane; a fact which is of itself exceedingly unfavourable to the supposition of a strict and absolute sympathy between the body and the mind. Dr. Burrowes records § the case of a person whose insanity continued a year, but the cerebral excitation only four months.

As, however, we readily admit that the brain is the *sensorium commune*, the *presence-chamber* of the mind, and the instrument by which it exercises its functions, it may be safely granted that in some of these instances a disease of the brain was the *cause* of madness: a concession which, according to a remark of Bishop James, enables us readily to account for the phenomenon of *hereditary insanity*; “since it is obvious that the material organ, the brain, may have its hereditary peculiarities, as any other organ of the body has.”

Miserably weak then must the argument have been, even supposing the truth of the fact which it assumes. When, however, we examine into the state of the case, it

* Burrowes, p. 70.

† *Ib. ubi supra*; also Rennell on *Scepticism*, p. 94.

‡ *Ib.* p. 71, n.

§ *Ib.* 500.

will be found that, in A MAJORITY of instances, the brains of lunatics present *no morbid appearance whatever*; and that consequently Mr. Lawrence must stand convicted either of ignorance or fraud in making the assertion, that “the various forms of insanity, that *all* the affections comprehended under the general term of mental derangement, are only evidences of cerebral affections, disordered manifestations of those organs whose healthy action produces the phenomena called mental; in short, symptoms of a diseased brain.”*

Although I, *of course*, cannot pretend to any personal experience in the treatment of insanity, I have diligently consulted the celebrated “Dictionnaire des Sciences Medicales,” by Esquirol, Articles *Manie* and *Folie*; Dr. Burrowes’s Commentaries on Insanity;” and the Articles upon this subject in almost all the Encyclopedias.

In the Dictionnaire des Sciences Medicales,† the author arrives at the following conclusions:

“2°. Les lésions organiques de l’encephale et de ces enveloppes, n’ont été observées que sur les aliénés d’ont la folie était compliquée de paralysie, de convulsions, d’épilepsie,” &c.

“5°. Toutes les lésions organiques observées chez les aliénés, se retrouvent dans d’autres sujets qui n’ont jamais déliré.”

“6°. Beaucoup d’ouvertures de corps d’aliénés n’ont présenté aucune alteration quelconque.”

“7°. La pathologie nous montre chaque partie de l’organe encephalique alterée, suppurée, *destruite* sans lesion de l’entendement.”

Dr. Burrowes‡ states that the *post mortem* examination of two hundred and fifty-nine lunatics by Greding, Esquirol, Georget, &c. gave the following results:

1. That lesions of the brain are in the proportion of one to two of those of the other viscera.

2. That more than one in five corpses of maniacs present no evidence of any disease whatever.

3. That in a great majority of cases insanity was a sympathetic affection. And,

4. That in fifty-six cases out of the two hundred and fifty-nine (more than a *fifth*), as no lesion or alteration could be detected, it strongly corroborates the opinion, *that when such alterations are observed, they are posterior, and not anterior to the development of the mental derangement.*

* Lawrence, p. 104, 105, &c.

† Tome xvi. p. 215.

‡ Pp. 74, 75.

“Bonetus. Morgagni, &c. in examining the crania of maniacs, confessed, that in some, neither malformation nor morbid appearance of any kind could be detected in any part of them. This has been since confirmed by modern anatomists upon an infinitely more extended scope of observation.”*

“I have myself assisted at several accurate anatomical investigations, conducted by eminent demonstrators, of the crania of persons who had exhibited the most furious symptoms of mania for months, and yet not a vestige of disease could be traced.”†

“In France, anatomists boast, and truly, of having dissected *hundreds* of bodies of insane persons; but nothing conclusive results from the numerous dissections of Pinel, Esquirol, &c.”‡

“Of thirty-seven dissections made at Bethlehem hospital, the structure of the brain was in eleven cases firmer than usual; in six it was softer; and in the remaining twenty its consistence was natural.”§

To these important *facts*, Mr. Lawrence has not made the remotest allusion; and, whatever may have been the cause of this most extraordinary silence, we can no longer consider him as a safe guide through the labyrinths of philosophical investigation. That we are not generally to look for the origin of insanity in the disease of the body, or the malformation of the brain, is likewise evident from the consideration of the causes by which it is produced. These have, in a majority of instances, no connexion whatever with the material frame, and a very limited range of observation must convince my readers of the fact. A man's misfortunes may, for example, have preyed upon his mind, or, by allowing it to dwell constantly upon one object, the intellectual faculties may have been impaired. But listen to the testimonies of the most experienced writers, both in England and on the continent.

“Les causes morales sont beaucoup plus frequentes que les causes physiques.”||

In 1789, Black found in Bedlam seven hundred and ninety cases of insanity; no fewer than four hundred and ninety of which might be traced to causes totally unconnected with the body.¶

* Burrowes, p. 69.

† Ibid. p. 70.

‡ Ibid. p. 77.

§ Quarterly Review, No. xliii. p. 24.

|| Dict. des Sciences Medic. tom. xvi. p. 187.

¶ See Lit. Gaz. Aug. 11, 1832. See also London Encyclopedia, Art. *Phrenology*, vol. xvii. p. 268.

Writers upon my side of the question, and especially Dr. James, have in general shrunk from the admission that the mind itself may be diseased. They would, however, do well to consider that they allow the possibility of its being *corrupt*, independently of the body; a supposition involving quite as many difficulties as the one in question.

In his fourth preliminary lecture,* Mr. Lawrence says, “Arguments, syllogisms, discourses, sermons, have never yet restored any (insane) patient; *the moral pharmacopeia is quite inefficient*.”

We have here another remarkable proof of Mr. Lawrence’s great carelessness in forming his inductions; the fact being directly the reverse of that which he has stated. Dr. Burrowes, having exclusively devoted his attention to the treatment of insanity, must be considered a much higher authority upon the subject; yet he says,† “If the moderns have any claims to preeminence in the cure of insanity, it is certainly from studying those means which have been denominated *moral*, with more attention, and applying them with most effect. To Pinel, amongst the moderns, is due the great praise of first adopting that *moral* system of treating the insane which has contributed most essentially to the amelioration of their condition, and consequently to the increase of the number of recoveries.”

In the London Encyclopedia,‡ several instances are given of the *efficiency* of the *moral pharmacopeia* in the cure of insanity. One case in particular is mentioned *of a lunatic being cured by argument*; although it may be admitted that the hallucinations to which these unhappy persons are subject, are usually too vivid and too much like reality to be affected by reasoning. §

I shall add here another extract from Dr. Burrowes,|| to prove that the benign influence of our holy religion has been felt even within the walls of a lunatic asylum. “Governed by these rules, (viz. a judicious selection from the liturgy), I have never experienced any ill, but, on the contrary, much good effect by a proper attention to the religious observances among the patients of my own establishment. In the York retreat, according to the remark of the judicious Tuke, ‘the mild but powerful influence of the precepts of our

* P. 106.

† P. 667.

‡ Vol. xiv. p. 184, Art. *Medicine*.

§ See here Rees’s Encyclopedia, vol. xxiii. Art. *Mental Derangement*; also Brewster’s Edinburgh Encyclop. vol. xii. p. 152; and Dict. des Sciences Medicales, Art. *Folie*, tome xvi. p. 225, &c.

|| P. 680.

holy religion, where these have been strongly imbued in early life, become little less than principles of our nature, and their restraining power is frequently felt under the delirious excitement of insanity.’ ”

Let us, lastly, consider a few of the most remarkable characteristics of insanity, and we shall find that the intellectual powers are only in abeyance; that faculties are sometimes called into exercise which the lunatic had never been known to possess while in his senses; that flashes of intelligence and judgment sometimes appear amidst the wildest ravings of mania; and, to adopt a beautiful expression of Sauvage’s, that “madness is the dream of him who is awake.”

To the reflecting mind, a lunatic asylum affords ample scope for melancholy contemplation. The very hallucinations to which its unfortunate inmates are subject, exhibit distinct traces of what the mind has been: like the wreck of a noble vessel, once indeed the mistress of the ocean, but now a mere dismantled hull, buffeted by the waves, and exposed to all the fury of the storm. Their truly marvellous associations of ideas show how slender are the partitions which divide genius from insanity; while the plausible manner in which they can account for whatever contradicts their favourite notions, strongly corroborates the assertion of Locke, that madmen “reason right from wrong principles.”*

“The arguments of lunatics,” says Burrowes,† “are very ingenious and often logical, though their premises are *non proven*.”

In very many instances lunatics are perfectly conscious of their melancholy situation, and with infinite tact avoid those subjects which might lead to their detection. Thus Dr. Burrowes gives us an instance of a lady who prosecuted him for detaining her in his asylum under false pretences. “During the nine months she was in the house, so effectually did she conceal the specific delusion that occasioned the outrageous conduct for which she was obliged to be confined, that she imposed on all her friends, and they released her. It was proved on the trial, on examining the friend who took her away, that *before the patient had passed my garden wall, she manifested the existence of the identical original delusion in an alarming manner.*”‡

* On the Understanding, book II. chap. xi. § 13.

† P. 67.

‡ P. 676, note.

The cunning of madmen is almost proverbial—a cunning which frequently enables them to elude the vigilance of the most wary and experienced keepers. I have heard of a maniac who escaped from Bedlam during a deep snow, and took the precaution *to walk backwards*, that he might not be traced by his steps, providing himself at the same time with a basket of provisions for the way. Their contrivances in fact often display an amazing fertility of invention, and even a degree of judgment which could hardly be expected.

Another proof of the fact that the *judgment* of insane persons, although perverted, still exists, is supplied by Friedrich,* who says, “It is a most remarkable trait in the insane, that they always know when they have behaved ill to their keepers.”

“I have known,” says Burrowes,† “instances of reflection and ratiocination being suddenly restored in the height of the most chimerical fancies, provided an object sufficiently striking interposed to arrest attention. Pinel refers to a variety of insanity which is very common, and which he denominates *folie raisonnée*; it is remarked by a propriety of ideas, and a sort of judgment very imposing. The patient can read, write, and reflect, as if he possessed a sound mind, and yet is capable of the most outrageous violence. Again, the same author designates another variety, ‘*manie sans délire*,’ in which there is no sensible alteration in the functions of the understanding, as perception, judgment, memory, but yet there is a blind impulse to violence.”

In cases of MONOMANIA, there is only a single point upon which the understanding is perverted, and in all other respects the judgment continues unimpaired, so much so that the opinion of a professional man, given within the walls of a lunatic asylum, is often quite as valuable as when he enjoyed the perfect use of his senses. The *lucid intervals* of insanity also prove that in these cases the judgment only suffers a temporary suspension: and here let it be remarked, that, “with proper treatment, eighty-one cases out of a hundred may be expected to recover; of recent ones, ninety-one in a hundred; and of old cases, thirty-five in a hundred.”‡

In discoursing upon this branch of my subject, I must not omit proofs of the strange and unaccountable fact, that persons, when they become insane, not unfrequently discover

* On Insanity, § 7.

† P. 266.

‡ Burrowes.

faculties which they had never been known to possess at any former period. One instance I well remember, in which the patient sang most delightfully, although he never before had been considered musical. This gentleman also quoted entire passages from various Latin authors, although several years had elapsed since he had been at school; and recited page after page of English poetry. For the possession of these accomplishments, his friends would no more have given him credit before they were thus called into exercise, than they could have believed him capable of that prodigious muscular strength which he then, for the first time, displayed. For the truth of this I am contented to hold myself responsible, my belief being founded upon the most unexceptionable testimony. Cornelius Agrippa* mentions instances of mad persons suddenly becoming poets; and what the French writers tell us of this description almost beggars credibility.†

Professor Beck on insanity says, talking of lunatics, "Some speak and write with ease, and are remarkable for striking expressions, deep thought, and ingenious associations."

Dr. Burrowes says, "The faculty of associating their ideas with words and things, and of applying them to their own situations, so as to combine and execute plans, is sometimes exhibited in a manner most correct and wonderful."‡ Again he says, "In insanity, the faculties of memory, imagination, or judgment, may be increased or exalted, perverted or depraved. In the beginning of many acute diseases also, there is more choice and felicity of expression, and perspicuity, than the ordinary capacity of the patient evinced. It was observed by the ancients, that towards the end of ardent and fatal fevers, the attendant delirium will subside, and the mind exhibit a quickness and sublimity never manifested in health."§ Once more: "I cannot say that I have ever observed an intuitive philosopher, astronomer, or classic, among those whom I have had under my care; but I have certainly met with instances among them where a talent has been elicited, or a taste evinced for polite literature, poetry, music, or the arts, which was never before suspected. A disposition to rhythm is common amongst the most uneducated of the insane."||

* *Occulta Philosophia*, lib. i. cap. 60.

† See Abercrombie on the Intellectual Powers, p. 296, 297.

‡ P. 262.

§ P. 267.

|| P. 268.

§ IV.—DOTAGE.

“*Enfeebled in the decline of life, and doting in decrepitude.*”—To reply to this argument may perhaps appear at first sight a task of extreme difficulty, since it cannot be denied that in dotage the human mind is degraded almost to a level with the brute creation; nay more, that in one respect at least it is even inferior: for a dog can distinguish his master from a multitude of others, but, according to the melancholy picture drawn by Juvenal,

———“*omni*
Membrorum damno major dementia, quæ nec
Nomina servorum, nec vultum agnoscit amici
Cum quo præteritâ cœnavit nocte, nec illos
Quos genuit, quos eduxit.”—SAT. X. lin. 232, &c.

A little more reflection will however convince us, that this is very far from establishing the existence of that strict and absolute sympathy between the mind and the body for which Mr. Lawrence is contending: for,

1st. It is certainly false that this imbecility of mind bears any proportion either to the longevity or bodily infirmities of the persons so affected; a consideration which is of itself fatal to Mr. L.'s hypothesis. In some instances, superannuation takes place at the age of sixty, while others, it is well known, at the advanced age of *ninety* retain all their faculties. Again, it is not true that old persons, *cæteris paribus*, are intelligent in proportion as they are more or less exempted from the infirmities of age; those who have survived their intellects being frequently hale and vigorous, whilst others, in whom the mind still retains its empire, feel most acutely that their very “strength is but labour and sorrow.”

2ndly. Even if dotage had been universal in old people, this could be easily accounted for upon our own hypothesis. The organs of sensation are, as I have already observed, the inlets of knowledge; and as these grow less perfect as we grow older, the mind must necessarily be obstructed in its operations by the decay of its instruments of action. Between the mind and the body there certainly exists a most intimate *connexion*; connexion, however, and identity are two widely different things.

3rdly. This prostration of intellect in old age is by no

means so common as Mr. Lawrence would have us to believe; and indeed, were I to judge by my own experience of aged persons, which, from the time of my ordination, has been sufficiently extensive, I should have no hesitation in saying that it is of *very rare occurrence*, having scarcely met with a single instance of it among several scores of old people whom I have known.

4thly. How many arrive at threescore years and ten, the ordinary limit of human existence, not merely with an unclouded judgment, but a memory richly stored with anecdotes of the past. That the judgment becomes perfect by age, according to Job,* is a universally acknowledged fact.† But even those faculties which seem to require a greater degree of mental activity than old persons might have been thought capable of, are nevertheless sometimes called into exercise. "Instances," says Dugald Stuart, "have frequently occurred of individuals in whom the power of imagination has, at an advanced period of life, been found susceptible of culture in a wonderful degree."‡

Cicero§ mentions many instances of celebrated men, who in old age continued the pursuit of literature, viz. Sophocles, Homer, Hesiod, Simonides, Stesichorus, Isocrates, Gorgias, Pythagoras, Democritus, Xenocrates, Zeno, Cleantes, and Diogenes the Stoic; after which he thus proceeds: "Num igitur hos coegit in suis studiis obmutescere senectus? annon in omnibus iis studiorum agitatio vitæ æqualis fuit? manent ingenia senibus, modo permaneat studium et industria." Cato the censor, in his old age applied himself to the study of the Greek language; and Dr. Johnson, at the age of seventy-one, gave a similar proof of the vigour of his mind by learning Dutch.|| At the age of seventy-four this illustrious scholar said, "I have this year read all Virgil through; I read a book of the *Æneid* every night, so it was done in twelve nights. The *Georgics* did not give me so much pleasure: the *Eclogues* I have almost all by heart."¶

But to return to the subject more immediately under consideration. We have every reason to believe, that in

* Chap. xx. 7.

† See Majendie's *Physiology*, p. 118; and Reece's *Encyclopedia*, vol. xxii. Art. *Man*.

‡ Stuart on the *Cultivation of Intellectual Habits*.

§ Cato Major, sive *De Senectute*, cap. vii.

|| Boswell's *Johnson*, edit. Croker, vol. iv. p. 353.

¶ Ibid. vol. v. p. 100.

dotage the powers of the mind merely suffer a *temporary suspension*. The advocates of Materialism no doubt wish us to believe, that when an old man's memory fails him, his mind becomes, as nearly as possible, a *tabula rasa*; that all former impressions have been blotted out, and that all the stores of acquired knowledge, accumulated during a long life, are for ever lost. But the fact proves nothing of the kind; for what can be more absurd than the position, *that no ideas exist in the mind unperceived*? Were this the case, instead of resorting to the memory as to a kind of storehouse, and drawing forth his ideas as occasion may require, a man would constantly have before his mind's eye every thing that he knew, although his memory might be a rich treasury of the most varied information. Next, with respect to what is called *forgetfulness*, the difficulty in a great measure arises from persons confounding *memory* with *recollection*, which are really distinct. When we look back, and search for ideas which have been formerly treasured up in the mind, we may be properly said to *recollect*; but when these ideas present themselves unbidden and uninvited, we *remember*. Although, therefore, aged persons may have lost the power of recalling and applying foregone conclusions, it no more follows that they are obliterated from the mind, than that we ourselves have irrecoverably lost the ideas which we cannot immediately recollect: but how often does it happen that ideas remain for years buried in the recesses of the mind, and as utterly useless as if they had never been acquired, till they are called forth by accidental coincidences and associations. There is a passage in the "Confessions of an English Opium Eater,"* so beautiful, and at the same time so pertinent to the subject before us, that I cannot resist the pleasure of quoting it: he is talking of the extraordinary dreams produced by the use of opium.

"The minutest incidents of childhood, or forgotten scenes of later years, were often revived. I could not be said to recollect them, for if I had been told of them when waking, I should not have been able to acknowledge them as part of my past experience; but placed as they were before me in dreams, like intuitions, and clothed in all their evanescent circumstances and accompanying feelings, I instantly recognized them. I was once told by a near relation of mine, that having in her childhood fallen into a river, and being

* P. 159.

on the very verge of death, but for the critical assistance that reached her, she saw in a moment her whole life, in its minutest incidents, arrayed before her simultaneously as in a mirror, and she had a faculty developed as suddenly for comprehending the whole and every part. It has been remarked, and I think justly, that the dread book of account which the Scriptures speak of, is in fact *the mind itself of each individual*; of this at least I feel assured, that there is no such thing as *forgetting* possible to the mind."

When sight or hearing are recovered by an operation, we cannot believe that the surgeon who cures the cataract, or bores the tympanum, *creates* those faculties in his patient. Most unquestionably *they existed before*, although a healthy state of the organ was necessary to their being available; a case which strikingly resembles what I have just asserted respecting the mind of superannuated persons.

"Who shall explain," says Dr. Unwins, "the circumstance of latent and unconscious knowledge lying in the brain, as it were, and only called out by accidental or adventitious circumstances? I remember, when a student at St. Thomas's Hospital, the case of a man who came from Gibraltar, labouring under compressed brain: Mr. Cline performed the operation of lifting up the part of the bone which was thus by its pressure interfering with brain function, and the moment the pressure was removed the poor man began talking Welch, a language which he knew when a boy, but which he had forgotten in after years. The much talked-of phenomenon of 'light before death' is derided by some, but the derision is misplaced. Something of the same kind happened in the case of my own father, who had been unconscious for years: and my much respected friend and late colleague, Dr. Hancock, related once to me the account of a most respectable individual, belonging to the society of Friends, who had been for a very long time deprived of his faculties by a stroke of palsy; nay, (to use Dr. H.'s own words,) who had been for this lengthened period *in a state of drivelling idiocy*, but who, for some time previous to his death, was restored to the full possession of his rational powers; he summoned his astonished family around him, delivered to each of them his parting advice and benediction, and then calmly resigned himself to a peaceful death."*

* On Insanity, p. 78.

A supposition, which lends considerable force to Mr. L.'s argument, prevails very generally in the world, viz. that the mind can never recover itself after it has been once reduced to imbecility. Dotage is thus looked upon as a state of hopeless fatuity; and the decay of the intellectual powers as the precursor of their annihilation. I am not so absurd as to contend that any medical treatment, however skilful, could restore a dotard to the use of his faculties; but if in *any case* an *equal degree* of mental imbecility has been cured, and if (as I have already proved) a *cure* can only imply a restoration of what had already existed, and was then only in abeyance, I am surely entitled to conclude, in the absence of all proof to the contrary, that dotage is only a suspension, and not a total eclipse of the understanding. After fevers of long continuance, it is well known that the mind loses much of its energy; but a very short time elapses before it is restored to its full powers.

"The faculties in demency or fatuity," says Dr. Burrows,* "are not always abolished; they are often in abeyance only, and may revert on the cessation of the morbid action inducing this condition."

In a woman, reduced to a "complete state of fatuity, the powers of volition and sensation were suspended—she was insensible to the calls of nature; if solid food was put into her mouth, she did not masticate or retain it; in fact she was a perfect automaton. After continuing in this state four months, she suddenly exhibited signs of amendment. The first favourable symptom was the instant return of sight; consciousness soon followed, and every function corporeal and mental was restored."†

In p. 493, &c. he has related an interesting case of a young lady who became quite childish, but afterwards recovered. "She asked for a friend as an infant would ask for her favourite nurse, and when the lady came, fondled her in a childish manner. Her countenance had a very silly expression. Unconscious of her own wants and of every thing around her, she would exhibit all the pettish waywardness of a child, and show a total want of reflection. She was punished in the same way as a naughty child. In about a year she had completely recovered."

"The mental faculties have been so impaired by injuries done to the head, as to give all the character of idiocy to a person; and yet a surgical operation, or nature herself, has restored those faculties."‡

* Pp. 484, 485.

† Ibid.

‡ Ibid. p. 505.

“Dr. Marshall relates the case of a man who died with a pound of water in his brain, after having been long in a state of idiocy, but who a very short time before death became perfectly rational.”*

Esquirol mentions nine cases of *intermittent* fatuity in the asylum at *La Petriere*; and these lucid intervals unquestionably prove, that *even in idiotism* the human mind is not utterly perished and destroyed. We can, however, prove more directly that dotage is merely a *suspension* of the understanding, several instances having occurred in which old persons, after being reduced to this melancholy condition, recovered in a wonderful degree. In a case of senile insanity, the patient, who was in his ninetieth year, “would relate in a very delightful way anecdotes of the most distinguished characters of the past century,” though he had lost all memory of recent events.†

The letters published by Lord King, in his life of Locke, afford ample proof that the faculties of the great Sir Isaac Newton were latterly very much impaired. His memory had almost entirely failed him, and it is said that he could not understand his own *Principia*. His nephew, however, (Mr. Conduit) gives us an account of a most interesting conversation, on the subject of astronomy, which he had with him a short time before his death, during which he appeared quite himself. He was then in his eighty-second year.‡

The celebrated philosopher Kant also survived his intellect; but on the day which preceded his death, his mind was so collected that he furnished information on a literary subject to one of his friends. I have taken this from a very interesting paper, called “*The Last Days of Kant*,” written originally in German by one of his pupils, a translation of which was published in Blackwood’s *Edinburgh Magazine*.

Within a few years there has occurred within the sphere of my own observation, the case of a gentleman who, at the age of fourscore, exhibited the most unequivocal symptoms of dotage, yet whose mind afterwards recovered itself so that he was able to manage his affairs to the last. At the risk of appearing unnecessarily prolix, I cannot avoid mentioning the case of Macklin the player. He lived to a very advanced age, and had completely lost his recollection; yet, after several years of

“Second childishness and mere oblivion,”

* Abercrombie on the Intellectual Powers, p. 155.

† Burrowes, p. 411.

‡ Life of Sir I. Newton, Append. No. 3. p. 363.

a few days before his death, to the astonishment of his friends, his faculties suddenly returned, and he remembered every thing and every body.* Lucid intervals before death are, however, not uncommon.

§ V.—DEATH.

“Annihilated by death.” And he also says,† *“With the decline of organization the mind decays; it becomes decrepit with the body, and both are at the same time extinguished by death.”*—Be it remembered that these are the expressions of a man who most earnestly denies that his opinions are at all calculated to weaken the restraints of morality or religion;‡ and who, in reply to the charge of impiety, exclaims with indignation, “I need not remind you that such an accusation is repelled by every appearance, every probability, and every presumption.”§ Assertion without proof is at all times degrading, and far beneath the dignity of philosophical investigation; Mr. Lawrence’s assumption is, however, not merely gratuitous, but is quite contrary to analogy, the only safe guide in the absence of direct evidence. *Human experience does not furnish a single instance of ANNIHILATION, nor has the minutest particle of matter ceased to exist from the creation to the present day.* The vegetable world, on the other hand, supplies us with numerous analogies tending to prove that death is not the termination of existence; for “all things,” says Bishop Pearson, “are repaired by corrupting, are preserved by perishing, and revived by dying; and can we think that man, the lord

* See life of Macklin.

† Lawrence, p. 101.

‡ As Mr. Lawrence rejects the divine authority of the Bible, this amounts to a positive denial of a future state, since natural religion furnishes us with no proofs of a resurrection. The infidel tendency of his work is clear from a variety of passages; a few choice specimens of which I shall now present to the reader. In p. 90, he exults in the prospect of the “destruction of all creeds and articles of faith.” In p. 230, he says, “To the grounds of doubt respecting inspiration, which arise from the examination of the various narratives; from knowledge of the original, and other oriental languages; and from the irreconcilable opposition between the passions and sentiments ascribed to the Deity by Moses, and that religion of peace and love unfolded by the Evangelists; I have only to add, that the representations of all animals being brought before Adam in the first instance, and subsequently of their being all collected in the ark, are zoologically impossible.” He had said in the preceding paragraph, “Moreover, the entire, or even partial inspiration of the various writings contained in the Old Testament, has been, and is doubted by many persons, including *learned divines, and distinguished oriental and biblical scholars.*” Who these “*learned Thebans*” may have been, I am really at a loss to understand, unless he alludes to the Reverend Robert Taylor.

§ Pp. 5, 7, 8.

of all these things, which thus die and revive *for him*, should be so detained in death as never to live again? is it imaginable that God should thus restore all things to man, and not restore man to himself?"

When, again, we contemplate the wonderful changes which take place in ourselves between infancy and age, and recollect that not one atom of the original body remains; when we see that this alteration is not merely confined to person and stature, but extends itself also to the intellect, taste, and character of the individual, we are prepared to look upon death merely as a *change of condition*, and a *renovation of the soul*. I would here refer the reader to the masterly chapter of Bishop Butler upon this subject, in the first part of his *Analogy*.

The resemblance between a heavy dreamless slumber, and death, is so obvious, that the *sleep of death* is a form of expression common, in all languages. Thus, when the first martyr Stephen breathed his last, it is said, "ἐκοιμήθη;"* and in the famous soliloquy of Hamlet, our great poet thus describes the lot of those who die—

"To sleep—perchance to dream."

Now it is certain that sleep is a natural function, by which all our powers, corporeal and mental, are refreshed; and so may it be with the soul, when she "shuffles off her mortal coil," and escapes from the prison of the body. In a swoon, the motion of the pulse and respiration, if they exist, exist only imperceptibly; and so near an approximation does it bear to death, that persons in this state have been even consigned to the grave. In catalepsy, I believe that a total suspension of the vital functions takes place; and to those who recover, the time which has elapsed during the continuance of the fit, is a perfect blank; so much so, that on the restoration of their senses, they have been known to finish a sentence or a word begun immediately before the fit.†

In the *Edinburgh Review*,‡ the case is mentioned of a sailor who received a blow on the head in the island of Minorca, which deprived him of all sense or motion. He was trepanned by Mr. Cline, and restored to sensibility and consciousness after an interval of *seven months*.

In these cases, the phenomena bore a striking resemblance

* Acts vii. 60.

† *British Critic*, Jan. 1831, p. 16.

‡ Sept. 1814, p. 385.

to *death*, yet they only implied a suspension, and not an annihilation of the vital functions: we have, therefore, the strongest reason from analogy for concluding that there is a life beyond the grave. Let us now examine what testimony the mind itself gives in favour of its separate existence, when about to depart from the body.

In cases of delirium, insanity, or dotage, a lucid interval immediately before death, in which the mind recovers all its vigour, and occasionally exhibits a sublimity of conception above its former capacity, is so common, that it is looked upon as a fatal symptom. At the approach of that "night in which no man can work," the man who hath neglected to make his peace with God, shudders at the prospect of futurity; but the death-bed of a believer is one of triumph and rejoicing, for he knows, that "being absent from the body, he shall be present with the Lord;" the grave is deprived of her victory, and death of his sting. At that awful period, hopes and fears, variously modified according to the creed or the circumstances of the individual, have universally prevailed in the world—but *the dread or expectation of being annihilated probably never exists*; while the generality of persons, in their last moments, have a clearer judgment, and form a truer estimate of things than ever they had done before. If now any one should enquire, how the soul, in a disembodied state, can possibly act, being divested of the organs of sensation, the reply is easy; for we learn from the phenomena of dreams, that we possess the faculties of sight and hearing independently of the eyes and ears. In the darkness of the night we are often transported to a magnificent pavilion, lighted by innumerable lamps, although our eyes are closed in sleep; and when the world is buried in the profoundest silence, we are enraptured by the most delicious melody.

Cicero has most admirably expressed a fact relating to sensation, which I have elsewhere alluded to (p. 5). "Nos ne nunc quidem oculis cernimus ea quæ videmus, neque enim est ullus sensus in corpore, sed viæ quasi quædam sunt ad oculos, ad aures, ad nares, a sede animæ perforatæ. Itaque sæpe aut cogitatione, aut aliquâ vi morbi impediti, (apertis atque integris et oculis et auribus) nec videmus nec audimus: ut facile intelligi possit *animus* et videre et audire, non eas partes quæ quasi fenestræ sunt animi: quibus tamen sentire nihil quæat mens, nisi id agat et adsit."

THIRD ARGUMENT.

From those actions observable among the brute creation which seem to have been dictated by reason, yet which, according to our hypothesis, do not require an immaterial principle to account for them.

The following are the words of Mr. Lawrence :—" If the intellectual phenomena of man require an immaterial principle superadded to the brain, we must equally concede it to those more rational animals which exhibit manifestations differing from some of the human only in degree. If we grant it to these, we cannot refuse it to the next in order, and so on in succession to the whole series ; to the oyster, the sea anemone, the polype, the microscopic animalcules. Is any one prepared to admit the existence of immaterial principles in all these cases ? if not, he must equally reject it in man."* Let us suppose a person to argue thus:—If a man worth two thousand pounds a year can keep his carriage, then a man of two hundred a year, the contents of his purse being the same in kind, though differing in degree, can also afford to keep his carriage ; nor can we deny that a still lower grade in society, persons of twenty, ten, or five pounds per annum, can afford to keep their carriages : but if we are not prepared to allow this in all the cases mentioned, neither can we believe that a man with an income of two thousand per annum can afford to keep his carriage. Q. E. D.

" Auditum admissi risum teneatis amici ?"

But to be serious. Mr. Lawrence's argument is built upon two gratuitous assumptions :—The first is, that, as far as intellect is concerned, we differ from brutes *merely in degree*—a position which is positively denied, and which he has failed to establish : and, secondly, he assumes that we believe the vital principle in brutes to be of a *material* nature ; whereas it is well known that many of our party maintain the very reverse. Des Cartes, indeed, and Pereira believed them to be mere machines ; but Lactantius, Boujeant, Bentley, Archbishop Tillotson, Bishop Burnet, Archbishop King, Professor Bergman, Sharon Turner, Baxter, and others, believed that brutes are animated by a vital

* Lawrence, p. 102.

immaterial principle ; and Bishop Sherlock contends from Eccles. iii. 21, that it is a doctrine of the Bible.*

If brute animals are really possessed of a faculty analogous to reason, instead of degrading mankind to a level with them, a true philosopher would have raised the opposite scale, and asserted that the lower animals must have souls ; so totally distinct are the properties of mind and matter. Supposing again the spirituality of the human soul to be established, the only argument for the *material* nature of the thinking principle in brutes could be, that their faculties are inferior to our own, both in degree and in kind ; and if this inferiority should be disproved, it would follow only that we had been *mistaken with respect to them*, whilst our direct proofs of the spirituality of the human soul would not be affected in the least.

It seems to me impossible to account for the vitality of brutes, or even plants, upon any hypothesis purely mechanical, (see p. 5, &c.). I shall, however, for the present concede that the talismanic word, ORGANIZATION, affords an immediate solution of the difficulty ; which will enable us to estimate the real value of Mr. Lawrence's argument.

§ I.—IN WHAT RESPECTS BRUTES EXCEL MANKIND.

A startling fact presents itself at the very threshold, viz. that in bodily advantages, at least, we are far inferior to the lower animals.

1. Man alone comes into the world naked, helpless, and dependent ; whilst other creatures speedily gain strength, and are supplied by nature with clothing of different kinds, whether they be shells, hair, wool, hides, prickles, shag, bristles, down, feathers, or scales.†

2. If we compare their organs of sensation with our own, the result will be very much in their favour ; for what man possesses the sense of hearing in the same degree as a mole, the quickness of eye which distinguishes the cat or the hawk, or the discriminating scent of a dog ? The exquisite perfection of this last faculty would almost dispose us to view it in the light of a *sixth sense*. Derham, in his *Physico-Theology*, b. iv. ch. 11, in a note, mentions an extraordinary instance of this acuteness of smell in a blood-hound, which was thus enabled to follow a thief to a town seven miles distant, and detect him in the middle of a crowded market-

* Sherlock on a Future State, p. 58.

† Plinii Hist. Nat. lib. vii. *Præm.*

place. Well, then, may Cicero exclaim, “*Incredibilis ad investigandum canum sagacitas narium est.*”*

3. With the almost solitary exception of man, animals are supplied by nature with the means of procuring food, and with weapons of attack or defence; but we alone are defenceless and unarmed, having neither the swiftness of the antelope, the horns of the bull, the claws of a lion, or the tusks of a boar. “*Ut nostrum corpus nudum prodit ex utero, nullis armatum præsiidiis, affert tamen secum manum, instrumentum instrumentorum, cæteris animantibus denegatum; quæ potentiâ est omne genus armorum, sive quia illa sibi faciat, sive quia factis utatur: sic animus, etsi nudus accedat in corpus, attamen est aptus natus ad percipiendas rerum quarumlibet notiones.*”† The hand, however, in the absence of a contriving and directing faculty, could never have supplied us with instruments and weapons.

4. Instances in which brute animals excel mankind in strength are so numerous, that it can hardly be necessary for me to particularize; let it suffice to observe, that the trunk of an elephant can lift a weight *seventeen hundred times greater than the strongest porter can carry.*‡

Having thus laid my foundation, I ask Mr. Lawrence, how it happens, that although we are far inferior to brute animals in all these respects, it is yet certain, according to his own confession, that “the most stupid man is able to manage the most alert and sagacious animal?”§ When we see a boy guiding a powerful horse, or directing the movements of an elephant; when we recollect that all animals are made subservient to the use of man, the conviction forces itself upon the mind, that man is the *lord of the creation*, and has a *power* over all other creatures, essentially different from *physical* strength.

§ II.—THE DIFFERENCE BETWEEN INSTINCT AND REASON.

Mr. Lawrence evidently looks upon INSTINCT as a lower degree of REASON. This, however, cannot be a true statement of the case, as there are some respects in which the former is *superior* to the latter. Instinct, for example, is infallible, whereas reason is constantly mistaken: the one is prior to experience, and perfect from the very first; whereas

* Cicero De Nat. Deorum, i. 63.

† Riolanus Op. Phil. p. 211.

‡ Chambers's Edinburgh Journal, Dec. 21, 1833.

§ Lawrence, p. 213.

the latter arrives at its conclusions by a slow and laborious process. Lastly, instinct acts *independently*; whereas reason frequently requires the intervention of certain instruments of action: birds, for example, at the time of migration, fly through the pathless air to the place of their destination, with far greater precision than a mariner can direct his vessel by the aid of a compass and chart.

In a paper by Dr. Jenner, published in the Philosophical Transactions for 1822, we learn that the pigeons about the Hague make a *daily* marauding excursion at certain seasons to the opposite shore of Norfolk, to feed on vetches, a *distance of forty leagues*; that geese have been frequently shot in Newfoundland, whose crops were plentifully stored with Indian corn, a species of grain which is not cultivated within a vast distance of the island; that pigeons taken away in a box, and totally excluded from the light, to the distance of two hundred miles, have found out their home in a very few hours; nay, more, that the wide expanse of the Atlantic ocean presents no obstacle to the large flights which yearly pass from America to England.

Almost all animals seem to possess this most surprising and unaccountable faculty of finding their homes, notwithstanding the distance which may intervene, or the intricacy of the road. I have somewhere read of an ass which had been carried from one part of Spain to another *by sea*, yet which broke loose, and actually returned home by land, a distance of many miles. Horses and dogs are proverbial in this respect: cats have been known to find their way through the most intricate turnings and windings of streets and lanes; the bee will return with ease through a labyrinth of flowers; other animals will pass through forests and thickets, or over lofty mountains; and fishes swim through a wilderness of waters in a direct course to the place where they deposit their spawn.

To this *instinctive* faculty reason offers no parallel. We are totally destitute of the gift, nor can we ever account for it. Most unquestionably, then, instinct is not *a lower degree of reason*; for as the greater must always include the less, we should in that case possess all the faculties of the most sagacious brute, with something in addition.

But although there are some few respects in which instinct is more perfect than the other faculty, in many respects it falls immeasurably below reason; of which I shall mention only two:

1. Instinct is *blind and unintelligent*; and the creature neither knows nor intends the results which it effects.* The hen, for example, who hatches her eggs with so much care, has been known to sit with as much assiduity over pieces of chalk cut into the same shape. When a bird provides against a winter which it has never experienced, and when, without any other guide than instinct, it pursues the species of food best adapted to its nature, and avoids that which is injurious, the faculty exercised is very different from *intelligence*; which never acts prior to experience, and can learn the relations of *cause* and *effect* only by observation or instruction.†

2. The other point of inferiority which I shall mention, is, the *want of improvability*. Instinct is uniform in the several species, and admits of no variety. The cells of a bee, for example, were as perfect on the day after the creation as they are now, at the distance of more than five thousand years; but how many gradations must have intervened between the first rude efforts of man in the art of building, and the splendour of the Corinthian capital? That instinct is not susceptible of cultivation, is a notorious fact; and, indeed, when brute animals are tamed and domesticated, “their *instincts weaken*.”‡ The human intellect, on the other hand, is constantly going on from strength to strength, nor can we assign any limit to its capacity for improvement. The science of astronomy furnishes us with a remarkable instance of the progressive improvement of human information; for we are enabled to trace its history from the period when the Ptolemaic system prevailed in the world, to the time of Sir Isaac Newton.

The above observations prove, beyond the possibility of evasion, that instinct differs from reason, not merely in *degree*, but even in *kind*. It appears indeed to have been

* Sharon Turner is evidently mistaken in several parts of his *Sacred History of the World*. Thus, in Letter xii. p. 328, the *migration of birds* is mentioned as a proof of *intelligence*; in Letter xiv. p. 363, the practice of some animals who store up food against the winter, is adduced for the same purpose; and in Letter xv. p. 393, he says, “The land tortoise makes for itself, *by its own foresight and reasonable anticipation*, a winter burrow, or retreat from the cold.” Experiment, however, proves that animals, taken from their parents when very young, and incapable of imitation, have, when they grew up, acted exactly like the rest of their species; but what *reasonable* ground could they have had to *anticipate* the result, independently of instruction, observation, or experience?

† See Paley’s *Natural Theology*, chap. xviii.; also Roget’s *Bridgewater Treatise*, vol. ii.; and Wells’s *Lecture on Animal Instinct*.

‡ See Wells’s *Lecture*, *ubi supra*.

given by a benevolent Providence to his creatures, *as a compensation for the want of intelligence*; and although it may not perhaps explain those proofs of animal *sagacity* which industrious observers have collected, it is nevertheless certain, that if this *sagacity* bore any comparison whatever with the human intellect, instinct, as well as those bodily advantages which I have enumerated, must have given brutes a prodigious superiority over mankind.

Instead of endeavouring to reply to the plausible and ingenious arguments of those writers who believe that brutes possess a degree of reason, or to explain away the striking facts which they adduce, I shall, in the next section, remind the reader of those faculties possessed by mankind, which it is universally admitted that brutes *have not*; and thus will the *nature* of that intellectual superiority which we unquestionably possess over the lower animals, be placed upon a proper footing.

§ III.—A CONSIDERATION OF THOSE FACULTIES WHICH BRUTES HAVE NOT.

Brutes have most certainly the faculty of *perception*; but can they, like man, apply ideas actually present to the mind to demonstrate such as are remote and distant, or *reflect* upon what they perceive? They have *memory*, but can they direct their perceptive capacity spontaneously towards and through their past perceptions, or, in other words, *recollect*? (see p. 31). Once more, they have *passions*; but have they the power of directing and controlling them, so as to sacrifice present gratification to future advantage? That they possess no degree of *invention* or *imagination*, and that the slightest traces of *modesty*, *pity*, or *remorse*, have never been observed among them, will hardly be questioned. To the faculty of *associating* or *comparing ideas*, and to the power of *calculation*, they are also evidently strangers.

Abstraction, or the power of generalizing particulars, so as to form *universal ideas*, “whereby ideas taken from particular beings, become general representatives of all of the same kind,” is a faculty which preeminently distinguishes mankind from the lower animals.*

In connexion with the faculty of *abstraction*, we must not omit the wonderful power which we possess of communicating our ideas to others, by *language* and by writing; a

* See Locke's Essay, b. ii. ch. xi. § 9, &c.

power denied to brutes. And here let it be observed, that the absence of this faculty originates in the want of understanding, and certainly not in any defect of their organs. The bulfinch, starling, magpie, jay, and parrot, may be taught to pronounce some words. Leibnitz tells us of a dog which could pronounce thirty words;* and Lawrence himself confesses, that “the tongue of a monkey is as perfect as that of a man; and several animals may be taught to pronounce words, and even to repeat sentences.”†

They appear to have no knowledge of the relations of *cause* and *effect*; a remarkable proof of which is their ignorance on the subject of *fire*. Many brutes are delighted with the warmth of the fire, and have constant opportunities of seeing how it is supplied with fuel; yet never has there been an instance of their endeavouring to keep up a fire by this means, which is alone sufficient to place them in the scale of intelligence far beneath the most ignorant savage or the merest idiot. “Ourang outangs,” says Turner, (p. 365,) “sit by the fire the negroes leave till it burns out, without adding fresh fuel.”

“Among *animals*,”‡ says Lawrence, “there is no mark of subordination, nor the least trace of any of them being able to recognize or feel a superiority in his nature above that of other species.”|| They are totally destitute of that knowledge of a *first cause*, which is found even among the most ignorant and stupid of mankind: nor have they any moral responsibility; for who in his senses would think of punishing a brute animal for a fault committed several years before? No lapse of time can, however, purchase for a rational being the impunity of his offences.

My *direct* proofs of the spiritual nature of man will hereafter lead me to a farther consideration of his intellectual faculties. At present I shall only observe, that the absence of all these mental powers in brutes, proves that the *sagacity* observed in some of them, (*independently of what is called instinct*) differs widely from reason; for, if they had been of the *same nature*, we might have expected the same faculties in brutes as in mankind, though of course in diffe-

* Turner, Let. xii. p. 354.

† Lawrence, p. 215.

‡ I have already had occasion, (p. 20,) to notice Mr. Lawrence's vague and unphilosophical manner of expressing himself; all through his work he uses the term *animals* to signify the brute creation. A ludicrously confused passage is noticed by Mr. Rennel. “*The vital properties or forces animate living matter so long as it continues alive:*” exactly as if he had said, “the properties of *life* give *life* to matter which has *life*, as long as it continues to have *life*.”—RENNEL, p. 67.

|| Lawrence, p. 213.

rent degrees; and, therefore, even supposing the faculties of brutes to be merely the result of *organization*, this would by no means assist us in our enquiry respecting a thing so *essentially* different as the human mind.

In his seventh chapter, p. 212, &c. Mr. Lawrence mentions a variety of particulars in which a man differs from a beast; from whence he concludes,* that the faculties of man “place him at a *wide* interval from all *animals* (?)—*an interval which no animal hitherto known to us can fill up.*” Yet he is not ashamed to compare “the formation of a maggot in putrid flesh, or a mite in cheese, to the production of a Newton or a Franklin.”† And, talking of the chain of creation, he says, “At one end is man, at the other an animated microscopic point; so that, although the two ends of the chain are immeasurably remote, *there is a close approximation between any two links.*”‡ Whatever may have been the cause of these inconsistencies and contradictions, the opinion of a man who has thus committed himself can be of very little value.

With this idea, that there is a regularly descending scale of intelligence, Mr. Lawrence appears wonderfully delighted, since he has repeated it in so many parts of his work. Mr. Roget, in his Bridgewater Treatise, has however shown that the idea is more plausible than solid. “Instead,” says he, “of a continuous series, we are presented only with detached fragments and interrupted portions of this imaginary system; so that the classes of animals would appear not to be represented by a chain, but by a complicated net-work, where several parallel series are joined by transverse or oblique lines of connexion, or in which there are circular and recurring arrangements.”||

“The mind of the ant,” says Turner, “is as intellectual as that of the elephant; the wasp is as intelligent as the wolf, and the lizard as playful as the squirrel.”

* Lawrence, p. 217.

† Ib. p. 98.

‡ Ib. p. 94.

|| Roget's Bridgewater Treatise, vol. i. p. 53.

FOURTH ARGUMENT.

From the complicated structure of the human brain.

The only other argument which I have found in his work, is founded upon the assumption, that, according to our hypothesis, the brain—"a large and curious structure, which in the human frame receives *one fifth** of all the blood sent out from the heart, which is so peculiarly and delicately organized, nicely enveloped in successive membranes, and securely lodged in a solid bony case—is left almost without an office, being barely allowed to be capable of sensation. It has indeed the easiest lot in the animal economy."†

My answer to this shall be very brief. If the brain had been merely the *sensorium*, and *totally unconnected with the intellect*, it would have had the most noble and important office assigned to it in the animal economy. It is the centre of the nervous system, by which sensation is conveyed to the remotest parts of the body; and within that "*solid bony case*" are contained the organs of four out of the five senses.

* Brewster, in his Edinburgh Encyclopedia, vol. xvi. Art. *Physiology*, says that a *tenth* part of the blood is sent from the heart to the brain; in which he agrees with Dr. Monro. Majendie, in his *Physiology*, vol. i. p. 113, "states it at an *eighth* part of the blood;" and Dr. Haller at a *sixth* part. *Encycl. Londinens.* Art. *Anatomy*, vol. i. p. 594. "Who can decide when doctors disagree?" One surgeon estimates the force of the heart as equal to 180,000lbs.; another reduces it to *eight ounces*." (See Lawrence, p. 67.) The proportion of the brain to the rest of the body in the cat, has been estimated by one author as 1 to 84; and by another, as 1 to 156; and in the dog, as 1 to 305 by one author, and as 1 to 47 by another!—*Cuvier Anatomie comparée*, tom. ii. léc. 9, art. 5. If the *experiments* of physiologists are so uncertain, what are we to think of their *abstract reasoning*?

† Lawrence, p. 98.

PART THE SECOND.

ARGUMENTS TO PROVE THAT THE HUMAN INTELLECT IS
OF AN IMMATERIAL OR SPIRITUAL NATURE.

FIRST ARGUMENT.

*From the nature of God—the common consent of mankind—
and the Holy Scriptures.*

§ I.—FROM THE SPIRITUAL NATURE OF GOD.

As the whole frame of the visible world, and the many admirable contrivances with which we are surrounded, proves the existence of a God, so are we compelled, by the powerful evidence of truth, to believe that his nature is incorporeal or spiritual. The *power* of this great and glorious Being is displayed in almost every thing that we see; and when we turn from the material to the intellectual world, we are convinced that the creator of the human mind must have been himself supremely intelligent.

1. Intelligence most certainly cannot be considered a *primary* quality of matter, for then every particle would think. We must therefore either conclude the divine intelligence to be of a nature purely spiritual, or look upon it as the result of *organization*. Now this latter supposition cannot possibly be admitted; for as *organization* is but another word for *contrivance*, in that case the Creator must have been himself created; *and even thus we should arrive at a FIRST CAUSE, distinct from, and independent of matter.*

2. That nothing can be the cause of its own existence, is an axiom which applies to God himself as well as to his

creatures. It is true that he is said to be SELF-EXISTENT : but the phrase implies *original independence*, and not *self-production* ; he *must* therefore have existed from all eternity ; and as an *eternal compound* involves a contradiction, his nature is certainly incorporeal.

3. Eternity and mutability are utterly inconsistent with each other ; and as every material compound is in a constant state of fluctuation, the nature of God, who is eternal, must therefore be distinct from matter.

4. It has been also argued with great force, that as God is every where, if he had been material, nothing could have existed but himself ; because two material substances cannot exist together in the selfsame individual parts of space.

Since then "*God is a spirit*," there is no greater difficulty in believing our bodies to be animated by a principle distinct from matter, than in believing him to be the creator and framer of the material world. And it has been observed, that "if we allow the Creator of the world to be an eternal and infinite mind, this is a demonstration that mind and reason do not belong to matter ; for mind is before matter, and the creator of matter, and therefore no matter itself."

§ II.—FROM THE UNIVERSAL CONSENT OF MANKIND.

As the nature of the Supreme Being shows the *possibility* of our doctrine respecting the immateriality of the human soul, the universal belief which has prevailed in all nations from the remotest times (as Mr. Lawrence himself confesses,*) increases the evidence to the highest degree of probability. Now, that an erroneous opinion should have been so generally received, is utterly incredible. We are to recollect that this belief was not confined to any one age, or any one country ; that it has existed not only in savage life, but amidst all the refinements of civilization ; and that, *notwithstanding the many ages which must have elapsed* since there had been *any communication between the eastern and western worlds*, the poor untutored American shared this belief with the sages of Greece and Rome. This "longing after immortality" is indeed deeply rooted in the human breast ; and whether a doctrine thus universally believed was originally revealed, and so handed down from the time of the *dispersion* ; whether it be one of those principles which were

* Lawrence, pp. 7, 8.

implanted in the human soul by the Creator himself; or whether we are to view it in the light of a conclusion to which mankind in all ages have been led, by a consideration of the various intellectual phenomena, (for I know of no other rational supposition,) a fact thus attested furnishes us with the strongest possible confirmation of its truth. And here let it be observed, that the phenomena of infancy, disease, insanity, and dotage, were familiar to all those who cherished this belief; and therefore, *by the common consent of mankind*, can be no valid objections to the doctrine.

§ III.—FROM THE SCRIPTURES.

Passing from *natural* to *revealed* religion, we have a *certain assurance* of what was before *only highly probable*. Arguing with a person who denies the inspiration of the Bible, (see p. 35, n.) I am not entitled to assume that it is the WORD OF GOD; but I may fairly call upon him to reply to the irrefragable proofs by which its claims are established, before he refuses to listen to its authority: *this has never been done*. Infidels have indeed, from time to time, accumulated objections, and started difficulties; but, besides that these have been repeatedly answered, no difficulty can weaken the force of direct evidence, "*difficultas non solvit argumentum*," being an admitted principle. The Bible not only speaks of the human soul as an immaterial principle,* but represents it as existing in an intermediate state between death and the resurrection. Thus, not to insist upon the parable of Dives and Lazarus, (which is clearly a case in point,) our Saviour assured the expiring thief that he should *that day* be with him in paradise.† St. Paul says expressly, that when Christians are "*absent from the body*," they shall be "*present with the Lord*;"‡ and that "*when our earthly house of this tabernacle is dissolved*, we have a building of God, a house not made with hands, eternal in the heavens."§ The same apostle speaks of the "*spirits of just men made perfect*," in evident allusion to those who were then in a disembodied state.|| I might have easily produced a *multitude* of passages¶ to the same purpose, but the fact itself will hardly be questioned. The belief of some persons, calling themselves Christians,

* Gen. ii. 7; Eccl. xii. 7; Matt. x. 28, &c.

† Luke xxiii. 43.

‡ 2 Cor. v. 8.

§ 2 Cor. v. 1.

|| Heb. xii. 23.

¶ Such as Matt. x. 28; Luke xx. 37, 38; 1 Thess. v. 23; Phil. i. 23, 24.

who have embraced the *material* hypothesis, yet maintain the resurrection of the dead, rendered it necessary for me to establish the point. In opposition to the plain words of Scripture, these persons deny an intermediate state of consciousness—a virtual annihilation takes place between death and the resurrection; and this opinion would shake our belief in the spirituality of God, which is not more clearly revealed in the holy Scriptures than the doctrine in question.

That there is a most intimate connexion between the immortality of the soul and its spiritual essence, has been clearly proved by Bishop Sherlock in his *Treatise on Death*.* “All material compositions,” saith he, “such as human bodies are, may be dissolved by the separation of the parts from each other; and the more curious and artificial the composition is, the more easily are they dissolved: but that which is not matter, which has no parts and no extension, may indeed be annihilated, if God so please, but cannot die as bodies do; for that which cannot be dissolved by any natural causes, must last as long as nature lasts.”

“If the soul be immaterial,” says Woolaston in his *Religion of Nature*,† “it is *indiscrptible*, and therefore incapable of being dissolved or demolished as bodies are.”

And it is observable, that Lucretius‡ has founded his proof of the *mortality* of the soul upon the assumption that its nature is material.

SECOND ARGUMENT.

From a comparison of the properties of Mind and Matter.

Before I enter upon a comparison of *matter* and *spirit*, it will be necessary for me to premise, that we have no knowledge of *either of them*, except from their *qualities* and *operations*; for of the *substrata* we know absolutely nothing. If, therefore, upon examination, it should appear that their properties are not only totally different, but even *contradictory*, the fact thus established will sufficiently refute the monstrous assertion, that “medullary matter thinks.”

If it should be objected to our argument, that by denying the *possibility* of matter being made to think, we in effect limit the power of God, we reply, that inability to perform contradictions is no proof of weakness. Thus, for example, even Omnipotence itself could not make a square circle; as

* Chap. ii. § 2, p. 47.

† P. 195.

‡ De Rerum Natura, lib. iii. lin. 563, &c. 807, &c.

God has made certain properties essential to the one, which would destroy the existence of the other. And, as Broughton says, in his *Psychologia*, "it is in vain to plead that we know not all the properties of matter, while we know that there are many properties actually belonging to matter *contradictory* to the property under consideration; as we cannot believe that matter should be both active and passive at the same time. Although a man knows not all the properties of a triangle, he knows it impossible for the three angles of any triangle to be equal to *three* right ones."

The inconsistency between the attributes of *mind* and *matter* was first noticed by Des Cartes: it was, however, reserved to Mr. Rennell to treat this branch of the subject in a clear, philosophical, and satisfactory manner; and I shall make no apology for adopting his arrangement, and in many instances his words.

THE PROPERTIES OF MATTER.

"1. **EXTENSION**, being that cohesion of parts by which a body occupies space: but *thought* occupies no space; as a mind enlarged by education, and a memory stored with the richest treasures of varied knowledge, occupies no more space than that of the meanest rustic."

"2. The *VIS INERTIÆ*, a quality by which bodies resist any change in their present state, whether of motion or rest. If the mind possessed this quality, when it ceased to be exercised, it would never resume its functions." Now we know that a suspension of the mental faculties takes place in sleep, &c., yet the mind acts vigorously and spontaneously immediately after. "Matter is wholly passive, and acts *necessarily*, according to the laws of motion and gravitation; but the soul has a power of *beginning motion*, and of acting without being affected by any thing external. As, then, the *vis inertię* is an essential property of matter, *spontaneity* must belong to some other substance."*

"3. **HARDNESS, SOLIDITY, OR IMPENETRABILITY**, are properties inseparable from matter, yet which cannot be applied to the mind without a palpable metaphor."

"4. **DIVISIBILITY**. Let us take any material substance, as for example the brain, and it will be found to be made up of a number of separable and distinct parts; whereas, on the other hand, the mind is simple and uncompounded, as appears from our having but *one* notion or idea of whatever we see, feel, or understand; and also from our being able to

* Essay on the Soul, vol. i.

collect, unite, and compare together, all the perceptions of our several senses ; for that which comprehends them all must needs be one. Unity is in fact so essential to a thinking being, that consciousness, which establishes personal identity, cannot, without a contradiction, be separated or divided. No man can think in two separate places at the same time, nor can we split a thought ; for who ever heard of an inch of reason, or an ell of contemplation ?”*

In connexion with the subject of *divisibility*, is the argument against the materiality of the soul, founded upon *personal identity* ; which may indeed be looked upon as a kind of corollary to the above. Philosophy teaches us that our bodies are undergoing a perpetual change ; and experience proves that there is an *absorbent system* in the brain, as has been clearly established by Rennell. “ It may indeed be questioned, whether there exists in our bodies *a single particle* which will not be removed within *ten* years ; *three* being the time commonly assigned.”† Our *material selves* have repeatedly changed ; yet we are intuitively certain that we are the same persons that we were twenty years ago. This *consciousness of identity* is, therefore, totally inconsistent with the idea of a material origin. Upon this point the reader may consult with advantage the first chapter of Bishop Butler’s *Analogy*, and also his dissertation on *Personal Identity*.

The argument of the learned Samuel Clarke, which has been generally considered a *demonstration*, that *matter* neither does nor can think, may be stated as follows :—

Supposing that it were possible for matter to think, the faculty of thought must either reside in all the particles of which it is composed, taken separately, or in these particles variously modified and combined.

The first supposition, viz. that every atom in every thing we see (in trees, for example, or stones), is a living and intelligent being, is too absurd to be believed by any one in his senses. The other supposition involves, if possible, a still greater absurdity ; for in that case the compound would possess qualities which were not to be found in any of its parts, even in the slightest degree. The particles of the brain, for example, would be all unintelligent ; yet intelligence would be the result of their union, exactly as if a number of ciphers could be joined together so as to make a sum.

* The above is condensed from Sherlock, Brown, Smyth, Broughton, and Rennell.

† Rennell, p. 96—98.

To this it has been objected, that “*melody* is the result of *many* impulses which a bow gives to the strings of a violin; yet it is only *one* effect.” To which Browne has answered—“Melody is *one* result indeed; but it is *one* only, because it is an affection of that which is in its own nature simple, viz. the human mind.*

The *fragrance of a rose* has been also alleged as an example of one indivisible power residing in a system consisting of divisible parts; but this is clearly only a *secondary quality*,† and not, properly speaking, in the rose at all, but in the person receiving the impression.

If particles of inert matter were, upon being compounded and joined together, capable of producing the various intellectual phenomena, not only would the *cause* be much less noble than its *effect*, but thought, which is by far the most perfect thing in nature, would exist in a subject to which it did not essentially belong; and would in effect be a mere perishing accident, originating in an arbitrary disposition of parts, and annihilated by their dissolution.

THIRD ARGUMENT.

From a particular examination of the brain.

All the organs of sensation are clearly and evidently adapted to the purposes which they are intended to serve: the *eye* is constructed upon the strictest optical, and the *ear* upon the strictest acoustical principles.‡ If again we look to the process by which *digestion* is carried on, or the circulation of the blood, we can understand at once the mechanism of the animal functions: *there is, however, no discoverable connexion between the structure of the brain and the*

* Browne on the Mind, Lecture 96, 97, and 98.

† The *primary* qualities of bodies are those which exist in them, whether we perceive them or not; ex. gr. *extension, divisibility, solidity, &c.*; but *secondary* qualities are merely *ideas excited in our minds* by means of these *primary* qualities; as, for example, *colours, sounds, smells, tastes*: for, were it otherwise, we must attribute different qualities and magnitudes to the same body. A man standing about two yards from a fire, finds it *pleasantly warm*; but if his hand should approach the bars of the grate, he would feel it *burning hot*: in both cases, however, *the fire continues the same*, though in common parlance we attribute our own sensations to the body which is capable of producing them.

‡ See Paley's Natural Theology.

operations of the mind; nor have the most eminent physiologists been able to assign offices to the several parts of which it is composed.*

If, however, the brain had borne the same relation to the *intellect* that the eye does to vision, we might have expected a more admirable mechanism in the *organ of thought* than in any other part of the body, the office assigned to it being of such infinite importance; and the absence of such mechanism is at least a *presumptive* argument against the supposition.

When we consider the almost illimitable powers of the human mind, and compare the gigantic intellect of a Newton or a Pascal with the very highest degree of brute sagacity, supposing *thought* to be merely a function of the brain, it would surely have been reasonable to expect as strongly marked a superiority in the structure of that organ among mankind, as is observed in his faculties when contrasted with those of other animals. In the scale of creation, we stand at an immeasurable distance from them; yet in neither case does the brain present a corresponding variety which enables us to account for this remarkable difference. What, then, can be more obvious than the conclusion, that human reason is not merely a function of the brain? But to the proof.

First, then, the *substance* of the brain in man and beast is exactly the same; for, “it would appear that, *from the zoophyte up to man*, there is in the structure of all the different tissues, not only a most striking similarity, but AN ABSOLUTE IDENTITY, *whether they are examined in the brain, the spinal chord, the ganglia, or the nerves.*”†

Secondly. In its original formation, in the *embryo* stage of existence, the brain of man differs not from that of other animals. “Serres maintains, that in all the *mammalia*, and in man, the rudiment of the spinal chord presents precisely the same appearance as in fishes, reptiles, and birds. The form of the brain in man, in the fifth week of his foetal life, is precisely similar to the form of the brain in a fish, as it exists in its permanent and adult state—to the permanent form of the brain of a pike, for example. All the different parts of the brain are evolved in precisely the same order, and pass

* See Roget's Bridgewater Treatise, vol. ii. p. 556; Majendie's Physiology, vol. i. p. 125, note; Barclay's Anatomical Lectures, p. 473; Bell's Anatomy, vol. iii. p. 38, Lond. 1803; and Cuvier's Anat. Comparée, tom. iii. p. 95.

† Animal Physiology, part i. p. 19. See also my Introduction, p. 9.

through precisely the same transformations ; the cerebellum being the last organ formed.”*

Thirdly. In the *adult* state, the brains of all *mammalia*, man included, contain the same parts, and have exactly the same structure and general appearance. “Le cerveau de mammiferes,” says Cuvier, “contient absolument les mêmes parties que le cerveau de l’homme ; disposées à peu près dans le même ordre.”† And the same illustrious anatomist elsewhere observes, “Pourquoi, avec tant de ressemblance dans la structure du système nerveux, dans le mode de son action, dans le nombre et la structure des principaux organes extérieures, y-a-t-il une différence si énorme, quant au résultat total, entre l’homme et l’animal le plus parfait? Ce ne sont plus là les questions anatomiques.”‡

Fourthly. Although many eminent physiologists have pointed out various respects in which the human brain differs from that of other animals, subsequent investigation has either brought to light some creatures possessing that peculiar conformation of brain which had been supposed to distinguish man from beast, or at least has proved that the difference is not *specific* ; for the real question is, *not* whether or no there is *any* variation in structure between the brain of a man and that of a beast ; but whether the *amount* of that difference will enable us to account for the faculty of *reason* in mankind, of which brutes possess not the slightest degree.||

If any peculiarity in the structure of the brain had been the *cause* of those faculties which we have, and brutes have not, this distinctive mark would belong exclusively to the human race, and the rule would admit of no exception ; for a *cause*, in the philosophical sense of the word, is “a relation of *uniform* antecedence, of which the *effect* is an *invariable* consequent. A *cause* is that which immediately precedes any change ; and which, existing at any time under similar circumstances, has been always, and will be always, immediately followed by a similar change.”§

1. It has been said, that “the brain of man is absolutely larger than that of any other animal ; but this is not true with respect to the elephant and the whale, as Lawrence admits.¶ In his fourth lecture,** Mr. Lawrence insinuates

* See Westminster Review, April, 1828, Art. *Nervous System*, p. 460, &c.

† Anat. Comparée, tom. ii. p. 147.

‡ Ibid. p. 120, &c.

|| See p. 40—45.

§ See Browne’s Essay on “The Relation of Cause and Effect,” Edin. 1818.

¶ Page 176. See also Roget’s Bridgewater Treatise, vol. ii. p. 559.

** Page 103.

that the intellectual superiority of a Newton or a Shakspeare arose entirely from "*an extra inch of brain in the right place;*" and having thus measured genius by the *inch*, with admirable consistency he weighs intelligence by the penny-weight and the ounce. Comparative anatomy, however, supplies us with a fact which would completely overthrow the conclusion, *even supposing that no animal could compete with mankind in this respect;* for the brute creation excel not each other in proportion to the bulk and weight of the cerebral mass.

The brain of an adult man weighs from 2lbs. $5\frac{1}{4}$ oz. to 3lbs. $3\frac{3}{4}$ oz.; that of a horse weighs 1lb. 7oz., or rather more than *half* the average weight of the human brain; whereas, according to Monro, our brain is *four times* heavier than that of an ox. A calf's brain weighs about $10\frac{1}{4}$ oz.; a sheep's brain between $5\frac{1}{4}$ and $5\frac{1}{2}$ oz.; a pig's brain $3\frac{1}{2}$ oz.; a cat's brain about $\frac{3}{4}$ oz.; and an elephant's brain weighs *eight pounds* all but a drachm. If, then, the absolute bulk and weight of the encephalon were to determine the amount of intelligence, it would follow that a calf, in point of sagacity, excelled the pig in a *threefold*, and the cat in a *twelfefold* degree, and also that the sheep was far more intelligent than the two animals last mentioned: whereas it is certain that both pigs and cats have been instructed for the purposes of exhibition; the former *by tuition* is nearly as good a pointer as a dog is by *nature*; and the latter has been known to rattle at a latch in order to gain admission.* It might therefore be said, that, in point of sagacity, the cat and the pig were to the sheep and the calf, *inversely* as their brains. That there existed a greater difference between the intellect of a horse and an ox, than between the intellect of a man and of a horse, is another absurdity which would follow upon the same principle; and we should be led to form a most erroneous opinion respecting those minute animals, whose brain would hardly affect the equilibrium of the balance, although they yield not in point of instinct and sagacity to the most stupendous of God's creatures.

2. "*That man has the largest brain in proportion to his body.*"—But the researches of Cuvier and others have led us to a very different result. In mankind, the proportion between the weight of the brain and the weight of the entire body, varies from $\frac{1}{22}$ to $\frac{1}{35}$; in the saimiri, it is as $\frac{1}{22}$; in the sai, the sparrow, and the cock, as $\frac{1}{25}$; in the cat, as $\frac{1}{82}$; the

* See Sharon Turner's Sacred History of the World, Let. xiii.

fox, $\frac{1}{205}$; the horse, as $\frac{1}{406}$; the ass, as $\frac{1}{154}$; the mole, as $\frac{1}{36}$; the canary, as $\frac{1}{14}$; tarin, $\frac{1}{23}$; pinçon, $\frac{1}{27}$; ouistiti, $\frac{1}{28}$; the field-mouse, as $\frac{1}{31}$, &c. If this were to be the criterion, the faculties of mankind would nearly equal those of a mole or a field-mouse, whilst the saimiri, the cock, and more especially the canary bird, would be our superiors in the scale of intelligence.

On what sure and certain grounds the science of physiology rests for support, may be seen by a reference to Cuvier,* where the reader will find how widely anatomists may differ, even upon points falling within the legitimate province of the dissecting knife. In stating these proportions, they vary from $\frac{1}{82}$ to $\frac{1}{156}$ in the cat; from $\frac{1}{25}$ to $\frac{1}{102}$ in the dolphin; from $\frac{1}{406}$ to $\frac{1}{706}$ in the horse; and from $\frac{1}{47}$ to $\frac{1}{505}$ in the dog. But it is truly marvellous how sensible men could have expected any *certain* result; for the weight of the body is constantly varying, as the animal becomes more or less corpulent, while the brain continues nearly unaltered during life.

3. "That man has the largest *cerebrum* in proportion to the *cerebellum*."—This criterion, however, proves, upon examination, to be as uncertain as either of the former. According to Cuvier, the human cerebrum bears towards the cerebellum the proportion of 9 to 1; (Fyfe states it as 6 to 1, in his *Outlines of Comparative Anatomy*); in the saimiri it is as 14 to 1; in the dog, as 8 to 1; in the ox, as 9 to 1; in the cat, as 6 to 1; in the horse, as 7 to 1; in the wild boar, as 7 to 1; in the beaver, as 3 to 1; and in the saï, as 6 to 1. Now it is evident, at the first glance, that some of those animals which are most deficient in this respect, are the most sagacious, as for example the beaver; whilst it is certain that, according to this rule, the ox is equal to mankind, and the saimiri (a kind of monkey) far excels him.

4. "That man has the largest cerebrum in proportion to the medulla oblongata and spinalis."—The following are the proportions as given by Cuvier: In man, as 7 to 1; in the dog, as 11 to 6, or as 8 to 3; in the cat, as 22 to 8; in the horse, as 21 to 8; and in the dolphin, as 13 to 1; so that the dolphin would excel mankind in a ratio of 13 to 7.

5. "That the ratio which the mass of the brain bears to the bulk of the nerves arising from it, is greater in man than in the brute creation."—But why should not this be rather considered as the cause of that acuteness of sense observed among beasts, than as a mark of their intellectual

* Leçon ix. art. 5.

inferiority? The fact itself is, however, by no means clearly established; for, as Lawrence says, "it must be acknowledged, that the comparison of the brain with the nerves connected with it, have not yet afforded any precise and clear information respecting the differences between men and animals. The basis of the position so much insisted upon by Soëmmerring, is *an assumption* that a certain bulk of nerve requires always the same proportion of brain for the execution of its office—a datum by no means self-evident. The comparison of the nerves to the brain, in general, is not satisfactory."*

6. "The human brain has the deepest and most numerous *convolutions*."—But we are told of the dolphin's brain, "it has more width than length, compared with man's, though other mammalia have it otherwise. Its cerebral hemispheres showed more numerous circunvolutions and furrows than all other animals: *they are more numerous in proportion than even in man.*"† If I understand Cuvier's words aright, there are *several* animals which equal man in this respect. "Il y a," says he, "*peu d'animaux* qui les aient aussi nombreuses." It is also remarkable, that in the *Rodentia* family, no visible convolutions of brain appear; yet rats and beavers are very sagacious animals.

7. "The human cranium presents the most elevated *facial line*;" i.e. a line drawn from the greatest projection of the forehead to that of the upper maxillary bone. The facial angle of the human subject varies from 65° to 85°; in children it reaches 90°; the young ourang-outang 67°; sapajou and pithecus 65°; presbytis, ateles, cebus, aotes, pithecia, harpales, and midas, (different kinds of monkeys) 60°; mastiff 41°; horse 23°. So that, upon this principle, the intellect of a child would be greater than that of a philosopher; that of an ourang-outang *greater* than, and that of a sapajou equal to, the intellect of some men. The sagacity of a sapajou ought to be as much greater than the sagacity of a mastiff dog, as the intellect of Newton surpassed that of a monkey or an idiot; while the horse, one of the most sagacious of all animals, is placed at the very bottom of the scale. It is observable, that the facial angle in the *quadrumanous* tribe approximates more nearly to our own than what is observed among other animals; yet, "in intellect," says Jardine,‡ "we consider the *quadrumanous*

* Lawrence, p. 180, &c.

† Bull, Univers. 1827, p. 106.

‡ Naturalist's Library, vol. i. p. 50.

animals, notwithstanding what has been written and recorded of many of them, *not superior*, and in many cases *inferior*, to others of the animal creation; it has the same constitutional distinction, and presents the same great differences from a true reasoning power." "We find," says Lawrence, "this method insufficient even to distinguish men and animals. An American monkey, figured by Humboldt, has as good a facial line as the generality of negroes."*

8. "The prodigious development of his cerebral hemispheres," has been mentioned as a proof of man's intellectual superiority over the brute creation; large portions of these hemispheres have, however, been removed without affecting that superiority, (see p. 13, &c.); and in hydrocephalus internus "*they entirely disappear*, and their place is supplied by water; there only remains a very thin membrane of cerebral substance: yet a hydro-cephalic patient, fifty-four years old, manifested intellectual faculties of a high order."†

9. "The sandy or earthy matter found in the pineal gland," has been considered as peculiar to mankind; "it has, however, been found in the fallow-deer and the goat, while it was absent in some human subjects."‡

10. The roundness of the encephalon, and the greater proportion of the *medullary* to the *cortical* substance of the brain, have been also alleged as distinctive marks of our superiority; but these I shall dismiss with the observation, that "*phenomena may coincide without being related to each other as cause and effect.*"

11. Nor can it be said in this case, "*quæ non prosint singula juncta juvant;*" for if reason and intelligence had been the *result* of cerebral development, so that the intellectual faculties were most perfect in those animals which had the greater number of these parts most perfectly formed, the converse must have been also true, viz. that where the brain was the most defective in these particulars, the animal would be the least sagacious. Ornithology, however, sufficiently proves the fallacy of this principle; for the brain of a bird is far inferior both in bulk and weight to the most stupid and sluggish of the mammalia; the hemispheres have no convolutions; there is no *fornix*, no *septum lucidum*, no *quadrigeminal* or *mammillary tubercles*; they have neither the *cornua ammonis*, or *pons varolii*; yet, in the structure of their nests, the hatching of their eggs,

* P. 159.

† Edinburgh Review, June 15, 1815, p. 262.

‡ Lawrence, p. 183.

the care of their young, and in migration, (see p. 41,*) they display instinct in its greatest perfection: their stratagems to mislead other birds are mentioned by writers on natural history; they have been also taught to pronounce words, to whistle tunes, and to go through a variety of evolutions,† which prove that they have sagacity of a very high order.

Another observation which I wish to make is as follows: that even supposing these parts and proportions to have existed only in the human brain, most of them ought to have been considered rather as *specific varieties*, than as indications of mental superiority. If thought had been merely a function of the brain, we might indeed naturally have expected, that in the *absolute bulk* of that organ, in its *proportion to the rest of the body*, and in the *structure of its several parts*, our superiority over the brute creation would clearly exhibit itself; but we are certainly not entitled to reason thus with regard to the *relative proportions* of those parts, being totally ignorant of their various uses and functions.‡ Until, therefore, we know the offices which they respectively serve in the intellectual economy, the argument founded upon the ratio which the *cerebellum*, *medulla oblongata*, or the *nerves* bear towards the *cerebrum*, can be worth absolutely nothing. To suppose that our reason excels brute sagacity, *because* a few sandy particles are found in our *pineal gland*, would be the very quintessence of absurdity; and indeed there is so little discoverable connexion between the effect and its supposed cause, that Des Cartes looked upon this sabulous matter as the origin of idiotism and insanity. My information respecting the brains of different animals has been chiefly derived from Cuvier's "Leçons d'Anatomie Comparée,"§ and from Fyfe's "Outlines of Comparative Anatomy;"|| for although I have myself dissected several heads, the experience of an unprofessional individual is necessarily very limited. As therefore the brain affords not any explanation of our acknowledged superiority over brutes, we evidently possess a something, *independent of cerebral development*, which places us at the head of the creation.

* See also the Habits of Birds, part ii.; Library of Entertaining Knowledge, chap. xiv.—xvii.

† See Strutt's Sports and Pastimes of the People of England, book iii. chap. vi. § 9.

‡ See Majendie's Physiology, vol. i. p. 125, n.; Roget's Physiology, vol. ii. p. 565; See also Lawrence, p. 180.

§ Tome ii, leç. ix. p. 147, &c.

|| Edinburgh, 1818, pp. 84—98.

Let us now examine how the case would stand with respect to the members of the human family, when compared with each other. To assert that there is *no* difference between the brains of men, would be not only false but unnecessary to our argument. It is quite sufficient for our purpose, that the variations which we acknowledge to exist, will not enable us to account for the endless gradations of talent which we observe among mankind, for their various tastes, characters, and dispositions. Examined by this criterion, genius and stupidity differ not *essentially* from each other; for who can look upon "*an extra inch*" of this homogeneous mass as *the cause* of so vast a superiority? In all mankind the *encephalon* has exactly the same parts, though in different proportions; nor do we vary more from each other in this respect than brute animals of the same species. If, then, intelligence had been merely a cerebral function, according to analogy, the capacity of individuals ought not to have varied more in the human species than in any other; and in that case all mankind must have had the same faculties, though not in the same degree. Now the very antipodes of this is the fact: for almost every man has his peculiar talent, while in other respects he is totally deficient. To enumerate the various departments of intellectual excellence can be hardly necessary, since the experience of every reader must supply him with examples. A man for instance may excel in painting or sculpture, who has not the slightest talent for antiquarian research; nor can any thing be conceived more opposite than a rich vein of poetical imagery, when contrasted with the depth and severity of thought called forth in philosophical investigations. The characters and dispositions of mankind, their tastes and sentiments, exhibit as remarkable a difference as their talents. The distinction between the sexes is as strongly marked in the mind as in the body. To man there belongs by nature a bold and independent spirit; whilst an exquisite sensibility and delicate refinement characterize the female sex; *yet the brain presents not any corresponding variety of structure*. But perhaps it may be suggested that *phrenologists* have discovered upon the surface of the skull indications of character in all its varieties; it will be therefore necessary for me to examine the claims of this pretended science, and briefly to detail the reasons which prevent me from yielding my assent.

1. The natural divisions of the brain have been already explained in page 6, &c.; but the thirty-five organs of

Phrenology have no rational foundation: the functions of the various parts, such as the *cerebellum*, *pons varolii*, *pineal gland*, &c. its advocates do not even profess to explain, although they certainly must have had their use; and if we examine the phrenological organs, we shall find no adaptation of structure to the end proposed. When we consider the human eye or the hand, we find that a number of parts have been made subservient to a particular object; and in these wonderful proofs of mechanical contrivance, we trace the finger of God. *Phrenological organs*, on the other hand, however they may vary in function, are essentially the same: the organs, for example, of BENEVOLENCE and DESTRUCTIVENESS are formed of exactly the same substance, and if they were separated from the rest of the brain, the most expert craniologist could not distinguish the one from the other, as was confessed by Dr. Gall. Phrenology is therefore contrary to the analogy of all our other bodily organs, and the *cause* assigned would be wholly inadequate to the production of its supposed effect.

2. Many eminent surgeons, both in this country and on the continent, have looked upon phrenology as ANATOMICALLY FALSE. A committee of the French Institute, consisting of Tenon, Portal, Sabatier, Pinel, and the celebrated Cuvier, gave a report so unfavourable to this pseudo-science, that Spurzheim answered them in a quarto volume.* Majendie has pointed out a gross inaccuracy in the system;† and among its opponents in this country may be mentioned Sir David Brewster,‡ and Dr. Roget.§ Now, although in ethical reasoning, and in matters of opinion, the argument from authority carries but little weight with it, in a science of *observation* it is almost conclusive.

3. Upon competent medical authority, we may deny *the very foundation* of phrenology, viz. the position that the brain, when the skull has been removed, has exactly the same protuberances and depressions as its outer case; for “*very few* skulls are found in which the depressions and elevations of the inner table have corresponding protuberances and hollows on the external surface. We have before us two skulls in which this is remarkably exemplified.”§ The *frontal sinus* is another case in point. This is a cavity

* Edinburgh Review, June 1815, p. 254.

† Physiology, vol. i. p. 100.

‡ Edinburgh Encyclopedia, Art. *Phrenology*.

§ Bridgewater Treatise, vol. ii. p. 565.

§ Medical Repository, vol. iv. p. 218, July 1815.

formed between the tables of the skull, in the forehead, immediately above the nose, so that there is sometimes a considerable elevation of this part of the skull, without any corresponding development of brain. Dr. Spurzheim admits that he has seen frontal sinusses of *an inch in diameter*;* and it is to be observed, that *three* important organs are affected by them, viz. INDIVIDUALITY, COLOUR, and SIZE.

4. The number of organs is very inadequate, there being several passions which have neither any organs assigned to them, nor could they be produced by a combination of others, as they are simple and uncompounded—the emotions of *sorrow*, for example. Considerable portions of the cerebral mass have been allotted to the most insignificant propensities, while the intellectual faculties, amounting in number to one half of the thirty-five organs, do not occupy above a *quarter* of the skull. It has been justly observed, that the principle of combining two or more organs, in order to produce a faculty or propensity, is directly contrary to analogy; for “we see no combinations among the corporeal organs to produce new functions, nor do any two organs of sensation combine to form another sense.”†

5. The uncertainty of phrenology appears from the fact, that its professors have frequently assigned different functions to the same organ: thus, for example, the same individual bump was called by Gall the organ of PRIDE; by Spurzheim, INHABITIVENESS, or a fondness for home; and by Combe, CONCENTRATIVENESS, or the power of keeping the mind fixed upon a single object.‡ The manner in which the functions of these different organs were originally determined, is also liable to great objections. Thus, for example, Dr. Gall having observed a broad head, and a full development over each ear, in carnivorous animals, (such as the hawk) called it the organ of *murder*, though the term was afterwards softened down into *destructiveness*. Now it is a notorious fact, that the heron, which is also a bird of prey, has no corresponding breadth of head at this particular part, but the contrary. Again, we never find it to be the natural inclination or act of any carnivorous animal, however savage, to destroy its fellow; and I will ask any candid person, whether the destruction of life by a carnivorous animal, committed in order *to satisfy the calls of nature*, and the *murder* of man by man, *to gratify a diabolical spirit of revenge*,

* Wayte's Anti-Phrenology, p. 24, &c.

† Ibid.

‡ Ibid. p. 64.

bear the least analogy to each other.* The *uncertainty* of Phrenology further appears from those evasions to which its professors are constantly obliged to have recourse. If a man possesses a prominent organ without the corresponding faculty, they will tell you that this arises from a want of education: if, on the other hand, the talent exists without the cerebral development, this they say originates in the *activity* of the diminutive organ, or a just balance of the others.

6. Within a very limited sphere of observation, several instances have come under my notice, in which the most eminent phrenologists have failed to discover the character and abilities of the individual—instances to which the evasions above alluded to cannot possibly apply. One of my friends was recommended by M. de Ville to cultivate the art of drawing, for which, according to his cerebral development, he had a decided talent; *but he had already cultivated it for years, under the first masters, without any degree of success.* I have also known several instances of persons, whose skulls exhibited a fair development of the organ of music, yet who had such extraordinarily bad ears, that they were unable to distinguish melodies of the most ordinary occurrence. The organ of *destructiveness* was totally wanting in the skull of Corder, and of another fiend-like murderer. In a woman who had destroyed her child, *destructiveness* was imperfectly developed, while *philoprogenitiveness* was very strong.† “Chantrey exhibited to Dr. Gall drawings of numerous heads: the cranioscopist selected one whose ample cerebral development gave a sure index of vast talent. *It was a fac-simile of the head of Earl P—mf—t.*”‡ “It is well known,” says Signior Nibby, “that the academy of painting at Rome, called St. Luke’s Academy, has been for a century in the habit of showing a skull which they pretend to be that of Raphael, and *phrenologists found in it every indication of Raphael’s peculiar talents*; but an authentic document (confirmed by the inspection of Raphael’s tomb,) clearly proved the skull to have belonged not to Raphael, but to Don Desiderio de Adintorlo, founder of the Society of the Virtuosi of the Pantheon, in 1542; *a man who had no talents to distinguish him as a painter.*”||

That many instances have occurred, in which the development of the organs has remarkably coincided with the

* Wayte, p. 47, &c.

† Ibid. p. 39, 40, 62.

‡ Burrowes, p. 68, note.

|| Finden’s Illustrations of Byron, vol. iii. Art. *Pantheon*.

intellectual character of the individual, is readily admitted ; these, however, will lose much of their force, if we consider the extraordinary accomplishment of many astrological predictions in the middle ages. The prophecy of Nostradamus, that King Henry II. of France would die in a duel, was not only literally fulfilled, but fulfilled in spite of every probability to the contrary. Dryden, it is well known, calculated the nativity of his son Charles, and the three critical periods named, agreed in a wonderful manner with the event ; yet no one looks upon these instances as conclusive in favour of that universally exploded science. It is in vain, therefore, to appeal to these facts in support of phrenology ; for, according to this mode of reasoning, the evidences of judicial astrology are at least *ten times* as strong.*

Nor is this the only consideration which weakens their argument from experience. Among the friends and relations of the person whose head is examined by a phrenologist, very few have ever troubled themselves to observe his character, and still fewer are capable of forming a just estimate of it ; yet, upon their testimony, and the partial judgment of the individual himself, we are expected to believe that his organs correspond with his real disposition. I say, *partial* judgment, because the result of the examination is often so favourable to his character and abilities, that his self-love enlists him in the cause of phrenology. It also frequently happens that the craniologist himself is insensibly biassed in his judgment, by a previous acquaintance with the person ; as when he is examining the head of an intimate friend, a great genius, a convicted felon, or an executed murderer.

When a person's head exhibits a large development of those organs, the functions of which are wholly foreign to his character, such as *combativeness*, *destructiveness*, *correctiveness*, or *secretiveness*, the advocates of this system ascribe the anomaly to the influence of a sound moral education : this, however, is utterly inconsistent with that "proportionate uniformity which the brain, together with the cranium, preserves during the whole of a long life. Through every period of existence this proportion is kept up, as it regards both exterior indexes and internal arrangement of parts, whatever may have been the circumstances of the individual subject. In a case where these vicious propensities had been corrected by education, the skull ought,

* See Cicero "De Divinatione," lib. i. ; Lucian *Περὶ τῆς Ἀστρολογίας* ; and Taxil's "Astrologie dans sa Splendeur."

had the theory been true, to have had a different external development from that which it would have exhibited were these evil propensities suffered to expand. But in favour of this result, no craniologist would argue.”*

The same author also remarks, that “the indisputable fact of total, and oftentimes sudden conversion of character, is not only inexplicable by phrenology, but totally inconsistent with it. The whole man is often suddenly transformed, vicious habits are laid aside, and virtuous conduct occupies their place: and even in intellectual character and mental tastes, a change is not seldom effected;” *yet there is no corresponding alteration of the skull.*

Lastly, I would remark, that the use which craniologists make, in the course of their arguments, of casts taken from the skulls of malefactors, tends to fatalism of the worst description; for if a man should possess a large development of the organ of *destructiveness*, without a proper balance of the more amiable propensities, and without the advantages of a moral and religious education, it is obvious that, under peculiar circumstances, this must amount to an almost irresistible impulse to destroy.

FOURTH ARGUMENT.

From the faculties and operations of the mind.

Having thus taken into consideration as well the properties of matter in general, as of that particular modification of it which we call the brain, I proceed to establish the converse of this argument, by proving that the faculties and operations of the mind are utterly inconsistent with the notion of a material origin. This I shall do in four sections; and it is my intention,

First, to investigate the nature of the human mind:

Secondly, to consider the manner in which it is furnished with ideas:

Thirdly, to prove that its operations are for the most part independent of sense and matter: and,

Fourthly, to inquire into the nature of that controul which the soul exercises over the body.

* Oxford Encyclopedia, Art. *Craniology*.

§ I.—THE FACULTIES OF THE SOUL.

To take an elaborate survey of the human understanding, or even to enumerate the various intellectual powers, would be wholly foreign to the design of this short Essay : I shall therefore content myself with a brief notice of those which plainly contradict the essential properties of matter.

1. The natural *inertness* of matter. That it has no principle of spontaneity, and can act only when it is acted upon by something extraneous to itself, has been already remarked, (p. 51): the mind, on the other hand, can act *independently*; and, to adopt an expression of the schoolmen, has *the power of beginning motion*. The operations of the intellect are clearly determined, not by necessity, but by choice; for we can direct the mind to any object of contemplation, and are so free, that we can act in opposition to the dictates of our better judgment. Such is the *activity* of the soul, that we not only think all day, but even in the silence of the night, when our bodily energies are absorbed in sleep, we are often transported, as it were, into an ideal world,

“ Et mens sine corpore ludit.”

This inherent activity of mind to which I allude, will be further exemplified, if we contrast the greatest degree of physical exertion, with that insatiable thirst for information which characterizes the philosophical inquirer; that intellectual avarice which never wearies in the acquisition of new ideas, and which, although possessed of the richest spoils of literature and science, is still inclined to exclaim, “*hoc unum scio quod nihil scio.*”—“ I feel,” said Sir Isaac Newton, “like a child who has been gathering pebbles beside the ocean of truth.”

2. All material compositions with which we are acquainted have their proper limits; but who can assign bounds to the capacity of the human understanding, or say unto the soul, “thus far canst thou go, and no farther?” The inventions and discoveries which have been made in different ages of the world, bear testimony to its unlimited improvability; and, indeed, when it *invents*, the mind exerts almost a *creative* power.* The same inexhaustible fertility is displayed

* Among these *Inventions*, the art of WRITING, by which arbitrary characters are made the signs of our ideas; PRINTING, which increases the usefulness of the former invention a thousandfold; and the application of STEAM, a stupendous mechanical force produced by the action of fire upon water,

by the *imagination*; a faculty which, as it were, emancipates the soul from the trammels of the flesh, enables her to rove at large, and presents before her view images and combinations which have no archetype in the material world. The power of *mental calculation* which some individuals possess, and which discovers at a glance the most complicated relations that numbers can bear towards each other, is also a proof of our inability to fathom the depths of the human intellect. In the last place, I would observe that the extent to which the MEMORY has been sometimes carried, is truly astonishing. Paschal and Crichton seem to have had no personal experience of *forgetfulness*, as they retained all that they had ever learnt. Sir William Jones was master of a vast number of languages; Lucius Scipio could converse fluently in *twenty-two* different languages, though in this respect he was far excelled by a professor in one of the foreign universities, who, if I recollect aright, knew *thirty-seven* languages; and Seneca could repeat two thousand words in whatever order they were recited to him, or two hundred verses given him at random: “hanc memoriam,” says he, “aliquando in me floruisse, ut non tantum ad usum sufficeret, sed in miraculum usque procederet; nam et 2000 nomina recitata, quo ordine erant dicta, reddebam, &c.*” From the above observations it is evident that our intellectual capacity far transcends the utmost perfection of which our bodies are susceptible, which is of itself conclusive against the *material* hypothesis; the CAUSE being always more noble than its EFFECT.

Although brute animals are certainly able to *recognize* objects which they have formerly seen, it cannot, I think, be proved that they possess the faculty of MEMORY, so far as it implies a recurrence to the mind of past events, in the absence of all external associations; and even if it could, the fact would be no valid objection to my argument. (See p. 39).

stand preeminent; and at the head of *Discoveries* I would place the *Copernican system of Astronomy*. We *feel* that the earth is immoveable, and we *see* the sun daily pursuing his course through the heavens; yet human reason has discovered the truth, in spite of the fallacious testimony of these two senses.

* See Bayle’s Dictionnaire Historique et Critique, Art. *Paschal*; and Morieri, Art. *Criton*; Derham’s *Physico-Theology*, b. v. ch. 1. In the Gentleman’s Magazine for September, 1752, the reader will find an account of the prodigious memory of William Lyon, an actor; and in one of the volumes of the same Magazine, there is an account by Dr. Johnson of the “Premature Genius of Barretier,” well worthy of attention. On the faculty of *mental calculation*, see the account of Jedediah Buxton, in the Gentleman’s Magazine for February, 1751.

§ II.—SENSATION.

According to the plan which I have laid down, I am next to consider the manner in which the mind is furnished with ideas, and to prove that, although the soul is thus supplied through the avenues of the senses, she is the *mistress*, and not the *slave*, of material impressions.

1. The senses furnish us indeed with *simple* ideas, such as the ideas of sensible qualities and operations; but it is *the mind itself* which arranges, distinguishes, or associates these sensible impressions; and the first informations of the senses stand in the same position with respect to our inferences and conclusions, that the letters of the alphabet, the earliest rudiments of language, do with respect to the most elaborate literary performances.

2. “There is no proportion between the manifestations of the faculties, and the perfection of the external instruments. If a man owe his arts to his hands, why do not idiots invent? why do painters drop the pencil, and architects the compass, as soon as the understanding is deranged; while other individuals bring forth stupendous things by the assistance of their crippled hands or their stumps? Who can measure the talents and capacities for the art of building according to the conformation of the hands? It is a common opinion, that the art of painting is the result of sight; but the art of painting does not consist in the perception of colours, any more than music does in the perception of sounds; nor can the talent for painting be measured according to the acuteness of sight. Great painters never attribute their talent to their eyes; they say it is not the *eye*, but the *understanding*, which perceives the harmony of colours. From these considerations we consequently see that the external instruments do not produce the faculties.”*

3. In *sensation*, the mind is not merely passive, since we most unquestionably possess a power of direction. The force of a sensation depends very much upon the degree of attention paid; for when we think intensely, we are insensible to external impressions, although the organs should be in a fit state to exercise their appropriate functions, (see page 5.) “Hence the difference between seeing and looking, hearing and listening.”† The influence which imagination, sex, and age has upon the senses, is too well known to

* Spurzheim's Physiognomical System, ch. iii. § 4.

† Majendie, vol. i. p. 101.

require more than this brief notice; but the wonderful exaltation of these faculties under peculiar circumstances is too remarkable to be omitted. Boyle * mentions the case of a follower of Charles the First, confined in a dark dungeon for a considerable time. At first he could see nothing, then he could but just find his bed, but at length he could distinctly see the motions of rats running about the place. After an interval of several weeks he fancied that he saw a faint light. Dr. Roget † mentions an extraordinary instance of the exaltation of the sense of hearing, in a person who had the drum of his ears bored: "the lowest tone of voice sounded like shouting; placing his hand at his ear was like the sound of a pistol. And Sir William Herschel trained his eye to such extraordinary sensibility, that a star of the third magnitude announced itself in the field of the telescope, like the dawn of the morning, increasing to an excessive brilliancy."

4. The mind is so far from being *the slave* of these organs, that she frequently corrects their erroneous testimony, as has been already remarked, (page 68, n.) "Though reason tell us ten thousand times over, that the sun is bigger than the earth, yet will not the eye be taught to see it bigger than a foot's breadth." ‡

5. The phenomena of *dreams*, which prove that we have *internal sensations* distinct from our bodily organs, will be considered in the Appendix.

§ III.—THE OPERATIONS OF THE MIND.

That the human mind is not merely a function of the brain, is further evident from its having acts peculiar to itself. These differ most essentially from the effects of material agency, of which indeed they are perfectly independent; and that intellectual energy is far superior to physical power, has been already seen, (page 40); for a man is enabled, by the mere force of his reason, to master an animal several hundred times his strength. The mind has also *its peculiar pleasures*, differing from, and far superior to, sensual enjoyments. But let us take a brief survey of some of the intellectual functions.

1. In the last section I had occasion to explain the manner

* Disquisitions about Final Causes, p. 245.

† Bridgewater Treatise, vol. ii. p. 527, &c.

‡ Smyth.

in which the mind is furnished with *ideas*. I there showed, that although the senses supply us with the first rudiments of knowledge, we make for ourselves complex ideas, many of which have no archetype in nature. It has never, I believe, been contended that our ideas are corporeal: to any one who should advocate such an absurdity, I would reply, that, comparing the limited dimensions of the human cranium with the prodigious capacity of the intellect, *they must be very closely packed*. At all events, it must be conceded that we can frame ideas of things totally distinct from matter; such as space, time, proportions, numbers, a mathematical point, infinite divisibility; and the soul can also form a conception of her incorporeal self.

2. The *motives* upon which we act are often totally distinct from matter; and we are often decided by *arguments* conveyed to us by other men, either verbally or in writing, which are clearly *immaterial*.

3. In forming a decision, the mind is not tied down to the mere sensible impressions, nor are we absolutely under their controul, as must have been the case had the soul been corporeal. The influence of religion, gratitude, or virtue, has often enabled men to resist the strongest material solicitations; and we can foresee the remote consequences of our actions, of which not a vestige appears at the time. When various objects are presented before us, we can pause and deliberate; and we have a power of suspending the judgment in the absence of sufficient proof. We can, in a word, forego a present gratification on account of a future benefit; we can balance probabilities, compare the most contradictory motives, and choose part of a design; all of which strongly evince an independence of action in the soul.

4. When they have once performed their office and supplied us with simple ideas, the senses are so far from assisting the mind, that they clog and impede it in its operations; so that if we would investigate truth, we must withdraw ourselves as much as possible from their influence: for else “we should do little more than chain up errors and delusions one with another, instead of truth.”*

5. Nothing can be conceived less in unison with the acknowledged properties of matter than the faculty of *abstraction*, by which “we separate, from any of our conceptions, all the circumstances which render it particular, or the representative of a single determinate object; by which

* Smyth's Discourses, p. 75; see also Plato's Phædo, cap. xxii.

means, instead of standing for an individual, it is made to denote a whole rank or class of things."

§ IV.—THE INFLUENCE OF THE SOUL UPON THE BODY.

This is exactly the converse of one of the most favourite and plausible arguments of materialists, considered in p. 16, &c. From the action of the body upon the mind, these gentlemen conclude that the latter is merely the result of organization; whereas, if the argument is of any value, since the mind has a much greater controul over the body than the body has over the mind, it would have been more reasonable to adopt Bishop Berkeley's hypothesis, which resolves all material impressions into the operations of the mind. It is *the mind*, most unquestionably, which *constitutes the man*,* and presides over the animal economy, ruling and directing the motions of the body, with an almost absolute sway: *επειδαν* (says Plato) *εν τῷ αὐτῷ ὧσι ψυχὴ καὶ σῶμα, τῷ μὲν δουλεύειν καὶ ἄρχεσθαι ἡ φύσις προσταττει, τῇ δὲ ἄρχειν καὶ δεσποζειν.*†

I have lately proved that we are able to controul the organs of sensation, and successfully to resist the lust and passions of the body:—"In adultis," says Riolanus, "*ratio est pro pedagogo, appetitus velut puer.*" The effects which the passions of the mind have upon the material frame, next fall under consideration. The case which Rennell has mentioned is by no means uncommon. A man will unexpectedly receive a letter conveying some melancholy intelligence, and instantly fall to the ground bereft of sense and motion. The *cause* which, in such a case, induces syncope, is certainly not *material*; for it is not the mere letter, considered as a piece of white paper with black marks upon it, which produces the effect, but the intelligence which it conveys. Again: "Violent grief and sudden fear," says Majendie,‡ "cause hunger to cease for several days together, and even render all digestion impossible, to that degree, that the food in the stomach undergoes no alteration." *Pleasure* also takes away the appetite, as we observe in children who are going upon an agreeable excursion; and brave soldiers, in the heat of an engagement, have been even unconscious of the wounds which they have received,

* "*Mens cujusque is est quisque.*"

† *Phædo*, § 20.

‡ *Physiology*, vol. ii. p. 126.

the excitement of the battle having completely destroyed all sense of pain. “Non sentiunt viri fortes in acie vulnera; vel sentiunt sed mori malunt quam tantillum modo de dignitatis gradu dimoveri. Fulgentes gladios hostium videbant Decii, cum in aciem eorum irruebant; his levabat omnem vulnerum metum nobilitas mortis et gloria. Hæc sunt solatia, hæc fomenta summorum dolorum.”*

Still more to our purpose are those cases in which the mind is, *by a voluntary act*, enabled to overcome the corporeal appetites. A man may be placed upon the very verge of starvation, yet when an opportunity is afforded him for the supply of his wants, by the commission of theft, considerations totally distinct from the fear of temporal punishment, enable him to resist the temptation. The lives of the early martyrs, who voluntarily underwent the most exquisite torments, and “counted not their lives dear unto them, so that they might win Christ,” furnish us with a striking example of the triumph of the soul over the feelings and infirmities of the body; the horrible death which awaited them might have been avoided, often by a simple denial of the accusation, and at all times by offering incense; but they would not purchase life by a denial of the Lord that bought them, and considered the act of apostacy infinitely more dreadful than the most cruel tortures which malice could inflict. Their contemporaries doubtless looked upon them as enthusiasts or fools, and many of the present day may possibly hold the same opinion; they however preferred eternity to time,—the glories of heaven to the few and evil days of their earthly pilgrimage, and the result will prove the wisdom of their choice.

* Ciceronis Tusc. Quæst.—Those who wish to pursue this branch of the subject further, may consult with advantage, “An Essay on the Changes produced in the Body by the Operations of the Mind,” by Dr. Corp, 1791.

CONCLUSION.

At length, gentle reader, have I arrived at the utmost limits to which I have confined myself; and although the subject is far from being exhausted, enough has, I trust, been said to obviate the cavils of materialists, and to place the spiritual nature of the soul upon a firm and irrefragable basis. If, by the blessing of God, this little book should be the means of producing conviction in a mind formerly inclined towards *Materialism*, it is my desire to take this candid inquirer a step further, and to lodge him safely within the portals of revealed truth.

The question which we have been discussing stands upon the very threshold—and indeed, were it not thus intimately connected with religion, it must have been utterly worthless. By the light of *natural religion*, the reader has already seen that we have a most exalted nature, and faculties susceptible of the highest degree of moral cultivation; he must however feel conscious that the noblest faculties of mankind have been shamefully abused, and that, in many instances, far from contributing to the happiness of our race, they have been either suffered to perish through neglect, or have been prostituted to the vilest purposes: for how many a man of genius has given the world reason to execrate the day which gave him birth. Placed at the head of the creation, man has, in many instances, degraded himself to a level with brutes, wallowing in the mire of guilt, and polluted with every description of moral turpitude. If we turn to the page of history, we shall be presented with a long catalogue of treasons, conspiracies, and rebellions: we there find power abused to the purposes of oppression and wrong, and wars commenced with the avowed object of extermination. If we look into the world around us, we see not only all the varieties of barefaced profligacy, but

the most execrable crimes, such as forgery, incendiarism, sacrilege, and murder. If, lastly, we direct our view inwards, and examine the springs and motives of our own actions, we must be convinced, if we do not grossly deceive ourselves, that the "heart of man is corrupt above all things, and desperately wicked." Now what can be the reason of so much wickedness, or how can it be reconciled with the acknowledged attributes of the Creator? To this question, in which we are all so deeply interested, natural religion returns not any answer. She teaches us, indeed, that we are something more than organized matter; that we fall very far short of the standard of purity; and she also teaches us that there is *probably* a life beyond the grave, *but there she leaves us*, without the least glimmering of intelligence respecting our future prospects; ignorant of the early history of our race, and uncertain as to the mode of acceptance. Can imagination frame to itself a case more truly deplorable than this? The god of the infidel is represented as leaving his creatures in a most miserable state, without vouchsafing to them any revelation of his will, or the least ray of light to guide them to happiness. Creation itself must have been without an object; for if it was intended that man should be *virtuous*, how can it be accounted for that so vast a majority frustrate the end of their creation? If it was intended that he should be *happy*, what are we to say respecting the existence of physical evil, and "all the varied ills that flesh is heir to?" If, lastly, we are to be happy hereafter in spite of our misconduct here, what are we to think of the *divine justice*? There are insuperable difficulties respecting the *origin of evil* which forcibly apply to natural religion, but vanish before the light of revelation. According to the infidel system, not only do moral and physical evil *exist*, but no remedy has been provided by God for them. We may therefore fairly ask, why he ever permitted their introduction into the world; since it is obvious that he either could have prevented it and would not; that he would, but could not; or that he neither would nor could—suppositions highly injurious to his moral character and infinite perfections. If, then, natural religion had been our only guide, it might have been reasonably concluded that the Creator of the universe was of a mixed nature like our own; and if we had no other means of judging respecting a future state than the analogy of this present world, miserable indeed must have been the prospect, since temporal blessings and misfortunes are by no

means proportioned to our deservings : the wicked sometimes arrive at the loftiest pinnacle to which ambition could aspire, while good men are often reduced to the lowest stage of poverty and destitution. It is in vain to plead that reason has been given us as a guide to happiness, since it is notoriously inadequate to such an effect ; the virtue of men bearing no proportion to their intellectual capacity. To the infidel, then, the world to come is *indeed* an “undiscovered country,” and when upon the point of death, he must “feel like a man about to take a leap in the dark,”* and shudder at the prospect. The various pretences to revelation which have been made in different ages of the world, is another serious objection in the way of the infidel hypothesis ; for how can we believe that there have been so many counterfeits without any genuine coin, and so many imitations without an original ? The disciples of this school act most disingenuously with respect to religion. Instead of meeting us boldly in the open field, and endeavouring to obviate the force of our direct testimony, they seek to undermine the faith by cavils and objections ; whereas, according to the acknowledged principle, “*difficultas non solvit argumentum.*” It is also a common practice with these gentlemen to argue by the borrowed light of revelation ; and principles taken from the holy Scriptures are produced with an unblushing effrontery, exactly as if they had been discoverable by the mere force of unassisted reason. The uncertainty, however, of the most celebrated philosophers with respect to a future state, and the nature and attributes of God,† sufficiently prove that the stamp of certainty is restricted to revelation.

The *cause* of that corruption which exists universally among mankind, the Bible can alone explain ; and it not only tells us *how* mankind lost the favour of God, but the history of the fall is accompanied by a message of pardon and reconciliation.‡ It most effectually exhibits man to himself, and not only teaches him that he has a soul, but that he has a soul to be saved.

Be it remembered that the Saviour of the world became incarnate, not merely that he might rescue us from the punishment of sin, but to redeem us from its dominion : that

* An expression used by a celebrated infidel on his death-bed.

† See Plato’s *Apologia Socratis* ; and Cicero’s three books *de Naturâ Deorum*.

‡ Most of the phenomena urged by Mr. Lawrence, in proof of the absolute dependence of the mind upon the body, such as *disease*,^f *insanity*, and *death*, were the consequences of the *fall*, previously to which the soul was much more independent.

he might "create unto himself a new people, zealous of good works," was one of the principal objects of his mission; and he has placed before us several motives admirably calculated to encourage us in our Christian course; viz.

1. The law, revealed to us in his blessed gospel, is more pure and holy than all other schemes of morality, since it checks the first inclination towards sin: thus, not only *murder* and *adultery* are forbidden, but *anger* and *lust*.*

2. The sanction of rewards and punishments, under the gospel dispensation, is much stronger than ever it had been before. Christ may be truly said to have "brought life and immortality to light through his gospel," since he not only gave mankind an *assurance* of a future life, which was before only conjectural, but revealed to them the doctrine of a resurrection, which human reason could never have discovered; he himself becoming "the first fruits of them that slept."

3. As a motive to obedience, may be mentioned that love and gratitude which we owe to God for "his inestimable love in the redemption of the world by our Lord Jesus Christ."

4. The revelation of God's former dealings with mankind clearly exhibits the character of his moral government, and disposes us to a ready compliance with the requisitions of a law which is so well calculated to promote our temporal and eternal happiness.

5. I shall notice the example of our blessed Saviour, who fulfilled all righteousness, and exhibited a perfect pattern of obedience to the will of his heavenly Father.

6. We are assisted in the performance of our duty by the influence of God the Holy Ghost, who purifies and cleanses the heart, opens our eyes for the discernment of spiritual things, and exhibits to us the deformity of sin.

7. When, through the infirmity of our nature, and the temptations of our spiritual adversary, we have fallen into sin, nothing can more conduce to our reformation than the promise of pardon, if we repent and forsake our evil courses; for if the door of hope had been for ever closed against us, despair would inevitably have made shipwreck of our faith, and plunged us into "the wretchlessness of most unclean living."

Such are the means provided by our wise and benevolent

* See Matt. v. 28; 1 John, iii. 15.

lawgiver for the moral regeneration of mankind ; and it is clearly our *interest*, as well as our *duty*, to apply them with diligence and zeal. . To exalt our spiritual and immortal part, and, by divine grace, to cleanse the soul from the stains and pollutions of sin, ought to be the great object of our lives, held continually in view, and ardently pursued. The time which we so prodigally waste, the care which we lavishly bestow upon our frail and perishing bodies, and the unremitting assiduity which we exhibit in the pursuit of temporal things, are surely unworthy of rational beings, placed in this world in order to qualify themselves for a better. Let us then be wise in time, that we may be happy in eternity ; proposing to ourselves the example of Him who “ fulfilled all righteousness,” and casting aside all ungodliness and every worldly lust : so shall we have “ our fruit unto holiness, and the end everlasting life.”

APPENDIX.

INQUIRY INTO THE PHENOMENA OF DREAMS, AND OTHER ILLUSIONS.

Συναγάγετε τὰ περισσευσαντα κλασματα ἵνα μὴ τι ἀπόληται.

§ I.—HOW FAR OUR DREAMS ARE INFLUENCED BY MATERIAL AND SENSIBLE IMPRESSIONS.

THAT the character of our dreams depends, in a great measure, upon the state of the body, can hardly be questioned. In a fever they are singularly wild and confused: persons troubled with indigestion are, it is well known, subject to *ephaltes* or *night-mare*; and the effect of narcotics upon our dreams, has been admirably exemplified in “The Confessions of an English Opium Eater.” Mrs. Radcliffe used to sup upon the most indigestible food, to procure horrid dreams; Dryden and Fuseli, in order to have splendid visions, used to eat raw flesh; * and the old works on Natural Magic contain recipes, “*pour voir en dormant des choses merveilleuses.*” † It must also be conceded that our dreams are made up entirely of ideas conveyed to the mind, during our waking moments, by the organs of sensation; yet when we compare the train of our past experience with our dreams, we are inclined to consider them as something more than “foregone conclusions;” the ideas formerly treasured up bearing no higher a relation towards them, than the colours upon an artist’s palate do towards the painting produced by his industry and skill.

In cases of *somnambulism*, one or more senses frequently remain awake; sleep-walkers being often “conscious of the presence of external objects, *so far as they are connected with dreams which engross them at the time, and no farther.*” But even in ordinary cases, noises made in the room are sometimes incorporated with the dream: it is possible to enter into conversation with those

* Macnish on the Philosophy of Sleep.

† Wecker, *Secrets de la Nature*, p. 280, &c. 298; also Baptista Porta’s *Magia Naturalis*, p. 337, &c.

who talk in their sleep; and Defoe says, in his "History of the Devil," that, by whispering softly into the ear of a sleeping person, you may make him dream of any thing you please.

§ II.—HOW FAR OUR DREAMS ARE INDEPENDENT OF OUR MATERIAL ORGANS.

In the darkness of the night when there is nothing to be seen, and in the stillness of the night when there is nothing to be heard, although our eyes are closed in sleep, and our ears are insensible to noises which would otherwise have solicited our attention, it is notorious that we both see and hear, the vision being fully as vivid as the reality could have been. In a case of somnambulism published in the "Journal Encyclopedique," we have ample proof that the organs of sensation are not concerned as far as respects our dreams; for on one occasion, when the sleep-walker was eating a salad, the by-standers substituted cabbage, and afterwards a cake, without his discovering the difference; and on another, when he asked for some wine, water was presented to him, which he drank with as much relish as if it had been the veritable juice of the grape. This man, during the continuance of his dream, heard no noise however great; he perceived not a candle, although it was held so near as to scorch his eyelids, *his eyes being wide open at the time*; nor did he feel a feather, though they violently tickled his nose with it. It is evident then that we possess the faculties of sight, hearing, &c. independently of the organs of sensation.

Sir Walter Scott, in his *Demonology and Witchcraft*, (p. 16, &c.) Sir David Brewster in his *Natural Magic*, (Letter III.), Dr. Hibbert, and others, have established the remarkable fact, that many persons of sound mind, their eyes being open at the time, and in the clear light of day, have a morbid tendency to see spectral illusions. Although these waking visions have all the force of reality, the judgment remains unclouded, and the person is fully aware that they exist only in the imagination. The case of Mrs. A—, with which Sir D. Brewster has favoured the public, is peculiarly interesting, not only from the intelligence of the lady, and the philosophical precision with which the details are given, but from the number and variety of the illusions, which, if I recollect aright, amount to fourteen. They do not appear, *in any instance*, to have been connected with a previous train of thought; they included circumstances which had never before fallen under her notice; the spectral illusion concealed real objects behind it, and might be seen in different points of view. On one occasion, when she saw the appearance of her husband standing near where she was sitting, "the impression was so distinct and forcible, that Mrs. A— believed it to be a reality.

The appearance was seen in bright day-light, and lasted four or five minutes. When the figure was close to her, it concealed the real objects behind it, and the apparition was fully as vivid as the reality." On another occasion, "while riding with a neighbour, Mr. —, she heard her husband's voice frequently, as if he were riding by her side. She heard also the tramp of his horse's feet, and was almost puzzled by hearing him address her at the same time with the person really in company. His voice made remarks upon the scenery, improvements, &c., such as he would have done had he been present." Narratives of this description establish a most intimate connexion between dreams, spectral illusions, and the hallucinations of the insane; and they are also exceedingly valuable, since they enable us to account for the many stories of ghosts and apparitions which we find in history, without destroying the credibility of human testimony. Dr. Macnish, in his *Philosophy of Sleep*, gives an account of a most interesting illusion which occurred to himself. He says—"In March 1829, during an attack of fever, I had a splendid vision of a theatre, in the arena of which Ducrow, the celebrated equestrian, was performing. On this occasion I had no consciousness of a dark back-ground, but every thing was gay, bright, and beautiful. I was broad awake, my eyes were closed, and yet I saw with perfect distinctness the whole scene going on in the theatre: Ducrow performing his wonders of horsemanship; several intimate friends among the audience; and, in short, the whole process of the entertainment as clearly as if I were present at it. When I opened my eyes, the whole scene vanished like the enchanted palace of the necromancer; when I closed them, it as instantly returned. But though I could thus dissipate the spectacle, I found it impossible to get rid of the accompanying music: this was the grand march in the opera of *Aladdin*, and was performed by the orchestra with more superb and imposing effect than ever I had heard it before; it was executed indeed with *tremendous energy*. During the whole of this singular state, I was perfectly aware of the illusiveness of my feelings, and could not help speculating upon them." The resemblance between these waking visions and dreams is far too striking to escape observation; for in both instances internal faculties of sensation are called into exercise without any assistance from our material organs.

§ III.—HOW FAR THE IMAGINATION IS CONCERNED IN OUR DREAMS.

It will, I presume, be admitted, that our ideas are incapable of *arranging themselves* into any degree of order and regularity; and as no one will contend that our dreams in general are produced by the agency of other beings, it follows that the soul herself is

the cause of those ingenious and fanciful combinations which are presented before her in sleep. During their slumbers, almost all men, even those who are least remarkable for their intellectual endowments, display a poetic energy and dramatic talent, to which they are at other times strangers. The personification of character is really wonderful, and in the conduct of the dialogue the style of conversation exactly agrees with the characters and habits of the persons represented in the dream. Thus, for example, when a man dreams of a friend or relation under peculiar circumstances—circumstances widely different from any in which he had ever known him to be placed, the visionary being will speak and act precisely as its prototype would have done. When we dream that we are reading a work which we have never seen, the imagination unconsciously supplies us with ideas; and all those magnificent structures, those sublime and beautiful prospects, which are then presented to “the mind’s eye,” may be traced to the same prolific source. The activity of the mind in sleep is truly marvellous. In 1816, Mr. Coleridge, during a three hours’ sleep, composed his poem of *Kubla Khan*, consisting of from two to three hundred lines, which he afterwards published.* And the Rev. William Jones, of Nayland, once in his sleep composed a very beautiful little ode, of about six stanzas, and set it to agreeable music, both of which he committed to paper when he awoke.† Nor is it at all incredible that genius should thus disport herself during the hours of repose, for “even the most dull and unimpassioned, while under the influence of sleep, frequently enjoy a temporary inspiration; their torpid faculties are aroused from the numbing spell which hangs over them in the waking state, and lighted up with the Promethean fire of genius and romance.”‡ “In our dreams,” says Dr. Browne, “we are something more than ourselves, and the slumber of the body seems to be the waking of the soul.” When our dreams, as is frequently the case, bear no resemblance to our past experience, the creative faculty of invention is necessarily called into exercise; and the mind also displays a wonderful ingenuity in accounting instantly for any sudden impression, conveyed to the organs of sensation during sleep, so as not to destroy the illusion. “If a person, dreaming, be suddenly aroused by a loud noise or a violent shake, and asked the subject of his dream, you will find him detail a series of occurrences, all connected with the cause by which his sleep was broken, but spreading over many days, or sometimes years.”§ A singular example of this has been published by Dr. Abercrombie, in his *Essay on the Intellectual Powers*, p. 273. “A gentleman dreamed that he had enlisted as a

* Edin. Review, Sept. 1816, p. 65.

† Dr. Goode on the study of Medicine, vol. iv. p. 180.

‡ Macnish, *ubi supra*.

§ Athenæum, March 1832, p. 138.

soldier, joined his regiment, deserted, was apprehended, tried, condemned to be shot, and at last led out for execution: after all the usual preparations, a gun was fired; he awoke with the report, and found that a noise in the adjoining room had both produced the dream and awakened him." "I seemed every night," (says the English Opium Eater) "to descend, not metaphorically, but literally, into chasms and sunless abysses, depths below depths; nor did I, by waking, feel that I had reascended. The sense of space, and, in the end, the sense of time, were both powerfully affected; buildings, landscapes, &c., were exhibited in proportions so vast, that the bodily eye was not fitted to receive them. Space swelled and was amplified to an extent of unutterable infinity: this, however, did not disturb me so much as the vast expansion of *time*. I sometimes seemed to live seventy or a hundred years in one night; nay, as if I had passed a *millennium* in that time." Cases of this description completely baffle all our notions of *time* and *succession*; for events which it must have taken ages to accomplish, are compressed into a single moment.

§ IV.—VOLITION AND CONSCIOUSNESS.

This is, unquestionably, the most difficult part of my subject. I have already hinted that dreams are the creatures of the imagination—a supposition confirmed by the fact, that they are modified according to the character and pursuits of the individual, and vary with his health. Many of them are consistent in all their parts, yet our ideas could no more have combined and arranged themselves, than it would be possible for a parcel of bricks to form themselves into a beautiful palace; nor can we believe that they are suggested to us by beings of a higher order, since there is no conceivable object which our ordinary dreams could serve; some reach the very climax of absurdity, whilst others are utterly inconsistent with piety and virtue. If, however, our dreams are thus produced by the imagination, how does it happen that when our fancy has thus conjured up its phantoms, and has invested them with all the attributes of our relations and friends, we should be yet unconscious of supplying more than our own share of the conversation? Or is it even credible that the mind should, by a voluntary act, terrify herself with those horrible visions which sometimes occur to us during sleep? In reply to this startling objection, I would observe, that even when we are awake, we are frequently tormented by imaginary fears and cares; that thought is independent of the will,—for we cannot prevent ourselves from thinking; and that several of our intellectual faculties are exercised unconsciously. Every step that we take in walking, and every mouthful that we swallow, is preceded by thought; so much so, that when the mind is in a state

of absence, we are incapable of exercising either of these functions. Again: a man could not read a line, were he deprived of the faculty of abstraction; yet while we continue to read aloud, our mind may be so occupied upon a different subject, that not a single idea is conveyed to it—a phenomenon which I have myself experienced. I have been, however, occasionally aware, that the ideas which occupied my mind in sleep, were but “the baseless fabric of a vision.” *Spectral illusions* may sometimes be produced *at pleasure*: “many children,” says the English Opium Eater, “have a power of painting, as it were, upon the darkness all sorts of phantoms: sometimes there is even a voluntary power to dismiss or summon them.” (p. 158.) And Cardan tells us of himself, “Cum volo video quæ volo, oculis non vi mentis; velut imagines illas de quibus dixi cum infans essem me vidisse: itaque video lucos, animalia, orbes, ac quæcunque cupio.”*

§ V.—THE JUDGMENT.

The partial suspension of the judgment which always takes place in dreams, affords an immediate explanation of that unconscious activity which I have been just considering: I am not, however, quite prepared to agree with Dr. Macnish, who thinks that in dreams “there is almost always a suspension of the judgment, and an active state of the memory, imagination, &c.” at least if he mean a *total* suspension, for our dreams have almost invariably such a degree of order and regularity as must require an exercise of the judgment: but if the memory and imagination were alone concerned, nothing could have resulted but the wildest confusion and disorder. It is readily admitted, that these “visions of the night” usually contain circumstances at which, if we were awake, our common sense must have revolted; and that during our sleep, we generally, *though not always*, view without surprise the grossest improbabilities, and the most incongruous associations: but although in this respect we certainly betray a want of reflection, yet it may be fairly questioned whether, supposing these illusions to be converted into realities, reason would not have pointed out exactly the same course of action as we have pursued in our dreams. When a man, for example, dreams that he is flying, that his body has swelled out into gigantic proportions, or that he converses with the dead, the vividness of the impression indeed deceives his judgment, but his conduct, under these imaginary circumstances, is otherwise perfectly agreeable to reason and discretion.

The report of the Literary Society of Lausanne upon a case of somnambulism, proves that persons during sleep are as capable

* De Rerum Varietate, lib. viii. cap. 43.

of performing all their accustomed duties as when they are awake—duties in which the judgment is evidently concerned. The sleep-walker in question, whose name was Devaud, was about thirteen years of age. “During his fit he made some mathematical calculations with great accuracy and precision. In order to see objects he was obliged to open his eyes, *at first*; but his imagination being warmed by seeing objects in this cursory way, they were represented to his mind with as much vivacity as if he really saw them, and his senses seemed concentrated in the object with which he was occupied, so as to have no perception of any thing but what related to that object. He could write, although his eyes were shut, and an obstacle held before them; the paper being imprinted on his imagination, as well as every letter which he ought to make.” “Having engaged Devaud” (says the Committee) “to write a theme, we saw him light a candle, take pen, ink, and paper from the drawer of his table, and begin to write while his master dictated; as he was writing we put a thick paper before his eyes, notwithstanding which he continued to form his letters very distinctly.” In a case mentioned in the same article,* the somnambulist having written something on a sheet of paper, another of the same size was substituted for it, which he took for his own, and made upon this blank paper the corrections which he meant to have made upon the other which had been taken away, precisely in the same places where they would have been.” In the Medical Repository, vol. vi. p. 476, &c., a no less singular case of somnambulism is recorded:—“He was employed” (says the narrator) “in making a catalogue of his books, quite in the dark, and with as much precision as I could have done with a light; making no mistake with respect to the titles of the books, the names of the authors, the editions, &c. On another occasion, being much perplexed that he had not prepared his Latin theme, he rose in the night and completed it with great correctness; he thought that I had done it for him, till I assured him that I had not, and referred him to his own hand-writing. One day, being somnambulent, he wrote a letter to the rector, in as good Latin as if he had been awake.” But even the most exalted faculties of the soul are sometimes exercised during sleep. “We have known,” (say the editors of the *Athenæum*†) “a person dreaming the right solution of a geometrical problem, which he had given up in despair when awake; and, what is more remarkable, the mode of solution was essentially different from all the methods he had tried before going to bed; nor had he any recollection of any previous steps leading to the discovery.”

* Encyclop. Metropol. Art. *Dreams*, vol. vi. p. 70, &c.

† March 1832, p. 138.

§ VI.—OF THE MEMORY.

The faint recollection which the mind generally retains of the most remarkable dreams, is, in my opinion, even more extraordinary than her unconsciousness respecting the share which she had in their production. A vague sense of horror is frequently the only trace that remains of the appalling visions which have disturbed our sleep; * and although somnambulists display such an extraordinary degree of mental activity during the continuance of the fit, when it ceases they are unable to give any account of what was then passing in their minds. The observation which I have just made, agrees exactly with the case of a person who has had a fit, or who has been recovered from insanity—for these persons have usually a clear remembrance of all that has occurred during the rest of their lives, but the period of their affliction is *a perfect blank*: † this fact, viewed in connexion with their hallucinations, which bear so striking a resemblance to what we experience in sleep, strongly confirms the position, that “madness is the dream of him who is awake.” How perfectly the faculty of memory is sometimes exercised in our dreams, is evident from the case of Mrs. A—, related by Sir D. Brewster. “She is subject” (says he) “to talk in her sleep with great fluency, to repeat long passages of poetry, and even to cap verses, for half an hour together; never failing to quote lines beginning with the final letter of the preceding one, till her memory is exhausted.” “At times” (says Dr. Macnish) “the objects of sleep are stamped with almost a supernatural energy: indeed they are usually represented with far greater strength and distinctness than events of actual occurrence. The dead, or the absent, whose appearance to our waking faculties had become faint and obscure, are depicted with intense reality and truth; we see them stand before us, and even their voices, which had become like the echo of a forgotten song, are recalled from the depths of oblivion, and speak to us as in former times. Dreams have therefore the power of brightening up the dim regions of the past.” But a still more wonderful phenomenon remains to be noticed: “To somnambulism and insanity is supposed to belong the curious affection of the memory being continuous from fit to fit, taking no heed of intervening circumstances. We have ourselves known instances of dreams being continued after an interval of several months, without any consciousness of the interval. ‡ Dr. Abercrombie, in his Essay on the Intellectual Powers, mentions the case of a young lady of cultivated mind, who, after “an attack of

* See Daniel, chap. ii.

† See an instance of this in Broughton's *Psychologia*, p. 202.

‡ Athenæum, *ubi supra*.

somnolency, was found to have lost every kind of acquired knowledge. She immediately began to apply herself to the first elements of education, and was making considerable progress, when after several months she was seized with a second fit: she was now at once restored to all the knowledge which she possessed before the first attack, but without the least recollection of any thing that had taken place during the interval. Another lady, who was sometimes attacked while engaged in conversation, on her recovery used instantly to recur to the conversation, and even complete an unfinished sentence. During the next paroxysm, she would pursue the train of ideas which had occupied her mind during the former. Mr. Combe also mentions “a porter, who, in a state of intoxication, left a parcel at a wrong house, and when sober could not recollect what he had done with it; but the next time he got drunk he recollected where he had left it, and went and recovered it.”

Before I conclude the subject of memory, I must again advert to the singular phenomenon mentioned in pages 31—35 of my work, viz. the recovery of a train of past experience, after all traces had been apparently obliterated from the mind. In December 1789, Mr. J. Hunter suddenly lost his memory, so that “he did not know what part of the house he was in, or even the name of the street when told it, nor where his own house was; he had not a conception of anything existing beyond the room he was in, and yet was perfectly conscious of the loss of memory. This loss of memory gradually went off, and in less than half an hour his memory was completely restored.”* No less remarkable is the *partial* loss of memory, where *a particular class* of ideas vanishes from the mind, the faculty of retention being otherwise as perfect as ever. “Salmuth mentions the case of a man who had forgotten to pronounce words, but could nevertheless write them:” and Bishop Watson said of his father, “I have heard him ask twenty times a day ‘what is the name of the lad that is at College?’ (my eldest brother); and yet he was able to repeat, without a blunder, hundreds of lines out of classic authors.”†

§ VII.—CONCLUDING OBSERVATIONS.

The time has now arrived when I must bid the reader farewell. Having in my Essay examined into the *nature* of the mind, the Appendix has been devoted to a consideration of the most wonderful of its phenomena—*dreams*. Without pretending to have established any theory upon so mysterious a subject, enough has I trust been said to prove that we have *internal faculties* of

* Goode, *ubi supra*, vol. iv. p. 189.

† Ibid.

sensation, which, as they enable the soul to act independently, may be regarded as an earnest of her immortality.* The last section strongly confirms the view which I have taken of "second childishness," in p. 29—35; and a connexion has been fully established between dreams, *spectral illusions*, and the hallucinations of insanity; (see here p. 20, &c.). For,

1. In insanity, as well as dreams, ideas are produced in the mind without the intervention of the senses; the illusions being in both instances as vivid as realities, (see p. 80, &c.)

2. As the mind, during sleep, instantly accommodates sensible impressions to the dreams which are passing before it, (see p. 82) so madmen usually pervert the objects of vision, &c. so as to favour their respective delusions: thus if a madman fancies himself a king, his rags are exalted by imagination into a magnificent robe.

3. I have suggested, (p. 84) that although when we dream the vividness of the imagination so far cheats the judgment as to make it mistake phantoms for realities, our imaginary conduct is usually such as reason would have suggested, had they been events of actual occurrence: this is strictly analogous to the case of madmen who "*reason right from wrong principles*."

4. I shall mention the singular anomaly which exists in both dreams and insanity, viz. that although a most wonderful memory may have been displayed during their continuance, when the illusion has ceased, the mind is frequently unconscious of all that has passed during the interval; (p. 86, &c.) and

5. The phenomenon of consciousness being continued from fit to fit, (without any notice being taken of intervening circumstances,) is common to both dreams and insanity, (p. 86).

Lastly, it is evident, that although, even as far as our bodies are concerned, we are "fearfully and wonderfully made," the soul presents a still wider field for contemplation—a contemplation which well deserves to be frequently and ardently pursued.

* The dreams of brute animals can be no objection to this conclusion, until it has been ascertained, upon grounds not merely conjectural, *what* passes in their minds during sleep; for my argument is not founded upon the mere *existence* of dreams, but upon their *nature*.

THE END.

